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Youth Transitions in Europe: Theories and Evidence

Insertion des jeunes en Europe : théories et résultats

Third ESF Workshop of the Network on Transitions in Youth

Troisième atelier ESF du Réseau sur l'insertion sociale et professionnelle des jeunes

La Ciotat, France,18-21/09/1996

documents

séminaires

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PREFACE

The papers in this collection were presented at the annual workshop of the European Science Foundation (ESF) Network on Transitions in Youth. The workshop was supported by CEREQ and held at La Ciotat between September 18th and 21st 1996.

The theme of the La Ciotat workshop was "Linking Theory with Empirical Analysis in the Study of Transitions in Youth". In all 2 papers were presented dealing with a range of issues related to this theme. In common with the majority of papers presented to previous workshops of the Network, these dealt mainly with the transitions from education and the varied trajectories, both in and out of the labour market, followed by young people. The topics of the individual papers ranged from studies of methods for increasing the comparability of datasets drawn from different countries, through papers concerned with theoretical questions in the study of youth transitions, through to studies that sought to link empirical analysis with questions of theory and methodology. Some of the empirical papers reported cross-national comparisons, while others were concerned with a single country. In keeping with the aims of the Network the emphasis was on the scientific study of transitions in youth. However, many - if not the majority - of the papers have policy implications for education and training and, more generally, the functioning of youth labour markets.

This workshop was the third and final workshop funded under the auspices of the ESF's Scientific Networks. Previous meetings had been held in Seelisberg (Switzerland) and Oostvoorne (the Netherlands). The editors would like to thank the ESF, and Pat Cosgrove in particular, for their support during the past three years.
If the ESF Scientific Network on Transitions in Youth has reached the end of its three-year term of funding from the European Science Foundation, the network will continue as the European Research Network on Transitions in Youth. The 1997 workshop will take place in Dublin between September (18 to 20). The main themes are educational disadvantage or failure and their subsequent labour market effects - unemployement or social exclusion - and effectiveness of state interventions.

Les articles rassemblés ici ont été présentés lors de l'atelier annuel du Réseau sur l'insertion sociale et professionnelle des jeunes de la Fondation européenne pour la science (ESF). Cette rencontre, organisée par le Céreq, s'est tenu à La Ciotat du 18 au 21 septembre 1996.

Le thème de cet atelier était : "Rapprocher la théorie et l'analyse empirique dans l'étude de l'insertion professionnelle des jeunes". Une vingtaine de communications ont été présentées. Elles renvoient à un large éventail de problèmes tous reliés au thème central. Comme dans toutes les autres rencontres du réseau, les auteurs s'intéressent le plus souvent au passage de la formation initiale à diverses trajectoires sur et hors du marché du travail. Dans le détail, les articles abordent de nombreux sujets, des plus techniques - méthodes pour améliorer la comparabilité des bases de

données nationales par exemple - aux plus théoriques sur la notion et l'appréhension de la transition professionnelle chez les jeunes, en passant par des articles faisant précisément le lien entre observations statistiques et théorie économique ou sociologique. Quelques études reprennent explicitement la comparaison internationale au centre des travaux de l'atelier 1995. D'autres ne concernent qu'un seul et unique pays. Tous se concentrent sur la question au centre de toutes les recherches du réseau : l'insertion des jeunes. La plupart, si ce n'est tous, ont ainsi des implications immédiates en matière de politique économique, ou plus généralement, quant au fonctionnement des marchés du travail rencontrés par les jeunes.

Cet atelier de La Ciotat était le troisième et dernier tenu dans le cadre du soutien de la Fondation européenne pour la science. Les deux précédents avaient eu lieu à Seelisberg, en Suisse, en 1994 et à Oostvoorne, aux Pays-Bas, en 1995. Les éditeurs tiennent à remercier la Fondation et, tout particulièrement, Madame Pat Cosgrove, pour son soutien permament durant ces trois années.
Le réseau continue toutefois à fonctionner. Il est rebaptisé "Réseau européen de recherche sur l'insertion des jeunes". L'atelier 1997 aura lieu à Dublin, du 18 au 20 septembre, sur le thème des liens entre les échecs en formation initiale et l'exclusion du marché du travail ainsi que les modes d'intervention pour, précisément, lutter contre l'exclusion, la pauvreté, l'inégalité.

NEW SYSTEMS OF PRODUCTION
AND INITIAL WORK CAREERS

Rodolfo Gutiérrez
Holm-Detlev Köhler

Abstract

The industrial world is undergoing fundamental changes in work organisation and human resources practices that in social sciences are reflected in debates about "lean production" and "flexible organisation". These changes are believed to have a strong influence upon traditional patterns of labour market entries and professional trajectories.
This paper tries to analyse the influence of labour markets and corporate structures upon the configuration of such trajectories; the way NPS (New Production Systems) and HRM (Human Resources Management) are thought to modify traditional configurations of professional trajectories and how, in fact, these phenomena have been identified in four firms which operate in the context of an old industrial region.

Résumé

Nouveaux systèmes de production et trajectoires professionnelles en début de carrière

Dans nos sociétés industrielles, l'organisation du travail et les pratiques en matière de ressources humaines connaissent des changements importants dont on trouve trace dans les débats en sciences sociales sur "la production robotisée" et "l'organisation flexible du travail". On considère généralement que ces changements ont une influence forte sur les modes traditionnels d'accès au marché du travail et sur les trajectoires professionnelles.
Cet article cherche à analyser l'influence des marchés du travail et des structures de l'entreprise sur la forme que prennent ces trajectoires. On analysera la façon dont les NPS (Nouveaux systèmes de production) et le HRM (Gestion des ressources humaines) sont censés modifier les configurations traditionnelles des trajectoires professionnelles et comment on peut empiriquement identifier ces phénomènes dans quatre entreprises d'une région industrielle traditionnelle.

1. JOB TRAJECTORIES, MARKETS AND ORGANISATIONS

The study on initial trajectories has focused on the profiles and activities of individuals rather than on companies themselves. It is acknowledged, however, that professional undertakings follow typical patterns of mobility, more commonly known as trajectories or career lines, the variety of which mainly depends upon corporate structures and labour market configuration. The traditional work careers are common to segments of the workforce sharing similar entry and mobility patterns.

Spilerman's typology (1977) acknowledges three basic variants in work paths in accordance with market configuration (internal, occupational, external labour markets): **the orderly careers**, in which the individual's promotion is accompanied by increased wages and status, is usually expressed in terms of a longer stay within the internal job market; **the occupational careers**, featuring little chance for promotion and greater mobility in terms of job-post and company. In this variant, changes are usually associated to improved skills or knowledge and will eventually render greater wages and professional recognition. Last, but not least, is **the chaotic careers,** characterised by a non-linear progression of the worker, as individuals "circulate" around "secondary job-posts" (requiring little or nihil qualification and where differences between wages and status cannot be appreciated). In this variant, age is not relevant and workers are usually subject to a number of "laid-off" episodes throughout their active life.

It is most likely that mobility does not show at its best during early labour trajectories so that the work path variants cannot be detected. However, the variants should be envisaged as from the start. Moreover, if they configured in the same way as open markets and mobility patterns typical in occupational trajectories, initial stages in active life for the young would respond to the logics of "matching", with learning and market exploration and episodes of horizontal/lateral mobility to reach consolidation at the age of 28-30.

This initial period will open way to other trajectories only when the young person has accumulated, through experience and practice, the cognitive skills required to face new responsibilities or when he/she is about to undertake family responsibilities. The longer or shorter duration of the "exploring stage" will be determined by the quality of the matching process.

Should the initial or exploring stage occur in a context dominated by the internal market, it is then likely to take the shape of a moratoria. Because of the importance of job stability, "primary" companies will take as selection criteria not only the applicant's capacity to achieve further cognitive labour skills but also (with the same or even greater significance) his/her degree of self-assurance and maturity.

As these qualities are age-related, drop-outs from Primary or Secondary School are likely to see their job opportunities reduced because of the reluctance of these "primary" companies to engage potentially unstable applicants. Most of these youngsters would be forced to enter the secondary labour market where eager employers are in search of poorly qualified workers who pose no risk of formalities or continuity within the job- post. On-off employment and frequent changes in job location are typical features in the secondary labour market. The chaotic path in labour trajectories is also characteristic in the younger starters.

For some years now, changes in organisational structures and the new trends in labour management, referred to as NPS, have been thought to be significantly altering the configuration of labour trajectories. Such modifications imply that differences between the orderly, professional and chaotic variants are not able to explain the companies' structures changes like the ones in employment relations.

The multiple organisational transformations that take place under NPS's obscure label always evolve around three types of innovations: a concept of organisational design which emphasises "flexibility", "lean" and "learning" practices and which is the equivalent of greater capacity for a company to vary both its size and structure when required by increased levels of activity or strategic targeting; a resource based on teamworking as priority of task-design and task-level; and the interest in generating a sense of commitment in the individual as part of the psychological "contract" or attachment to the company.

Such innovative schemes need to be implemented together with a set of management practices better known as HRM or Human Resources Management. In its most ambitious expression the concept, although controversial, refers to specific approaches in management oriented at achieving competitive advantage through strategic mobilisation of human resources ("excellence through people"); more precisely, through deployment of a highly-skilled and committed work-force; application of coherent cultural measures (corporate culture); structural measures (organisational design) and personnel management (Storey, 1995). As from this concept, the actions oriented at "moulding" the professional career of the employees become most relevant in the context of HRM. Moreover, the highly sophisticated procedures, the extension of learning through continuous training, the introduction of innovative reward systems and the implementation of career planning schemes are issues to be considered in depth. These examples of intervention will be discussed in detail when presenting the case-studies.

The HRM concept is usually seen under the light of suspicion because of discrepancies between "promises" and "reality". The substitution of the industrial relations model by the HRM model has been a controversial issue for both academic and trade-unionists (Guest, 1995). They believe HRM is a cover-up for the search of newer and more sophisticated methods to control and subordinate the workers, hidden under a false aura of "common objectives" and "mutual gains" (Legge, 1995). In any case, many empirical studies have observed that there is clear evidence of strategic changes in labour management, perhaps not in the promising way as foreseen by the HRM concept but, nevertheless, aiming at achieving the same objectives in a more pragmatic, opportunistic and eclectic way (Storey and Sisson, 1993). Such changes were initially implemented at some big transnational corporations and eventually extended to most companies operating in international markets, although the diffusion pattern was not the same in every case.

It is difficult to assess whether innovations in company organisation and labour management follow a clearly defined direction but it is almost certain that the "conventional model" in internal markets and orderly work careers is being altered at its foundations. It may be argued, however, whether this is leading to a "high control" situation or to a situation of "high trust". Should companies act in view of a "high control" situation, one would expect the context of occupational labour markets to become predominant and HRM to emphasise the quantitative, calculative and business-strategic aspects of managing the headcounts resource in as rational a way as for any other

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economic factor. With things going that way, one would expect initial labour paths to reinforce the logics of market exploration and adjustment. Should companies take the "high trust" direction, internal markets would shape in a way Kochan and Osterman (1994) labelled in terms of "mutual gains", in a soft version of HRM which traces its roots to the human relations school and emphasises long term employment contracts, multi-skill training, motivation and development of a direct employee-management communication". Under this version, initial labour trajectories would still be similar to the ordinate variant paths although, when compared to the traditional ones, they would respond better to the logics of "pull" rather than to the logics of "push".

It is also very likely that a company is not a unitary system of employment but rather a set of different labour markets within, operating under distinct rules and career levels. In this context one would expect NPS's to establish two-tired employment relations between a "core" - to which modern internal market criteria are applied - and a "periphery", where a wide range of non-conventional employment relations take place (time-limited contracting; part-time contracting; subcontracting; temporary employment agencies, etc.). On the other hand, it may be that the different modalities in labour trajectories are more related to employment clusters rather than to labour markets or company typology (Baron et al., 1986; Kochan and Osterman, 1994).

The discussion on the nature of changes is inevitably associated to factors most likely to affect their diffusion. In that sense, there are two factors which overtly contribute to it: firstly, competitive market pressure which forces companies to combine technological changes with continuous performance improvement while engineering further changes; secondly, corporate identity is a determining factor in terms of adopting coherent measures and reinforcing managers' commitment to stay longer with the firm involved.

However, it is unlikely that the nature and diffusion of innovations will simply depend on market factors or managing styles: the influence of institutional factors and enterprise atmosphere have also been acknowledged to play a role. These are factors upon which managers have little or no control whatsoever. These factors will either vehicle new opportunities or obstacle achievements. Two types of institution seem to dominate the scene: on the one hand, the transition system from education to the labour market, more in particular if intermediate positions between formal education and employment exist (i.e. dual systems and the like) because of the benefits companies get by offering specific training at low cost. On the other hand, the actors and the structure of collective bargaining through trade unions, which effectively vehicles decentralisation of representativity and establishes enterprise-based labour relations.

2. THE NATIONAL AND REGIONAL SCENARIOS

The context, in which the herein observations on the impact and diffusion patterns of innovation where registered, offers the framework of influences to take into account, as stated above. The youth employment context in Spain and in the region of Asturias is most relevant for understanding the various alternatives companies have to develop by HRM and the way different careers are arranged. Youth employment in Spain features three main characteristics (Garcia Blanco and Gutiérrez, 1996): strong disadjustment in youth labour markets; a school-based transition system from the educational world to active life; and deregulation of entry contracting modes.

In Spain, youth unemployment in the mid 80s was 50% of the total active population; in the early 90s it reached 30% in market segments in expansion; 40% of the young unemployed are long-term unemployed. The situation is even more dramatic in industrial regions in decline, located along the Cantabrian coast-line (Asturias, Cantabria and the Basque Country), where access to the labour market is the major social problem for the young population. These areas, in spite of representing the smaller share of the total national amount of youth unemployment, still support 40% of young unemployed (three times as much as the adult population unemployed) with an important number of young people who have had no labour experience whatsoever and have suffered long-term unemployment periods. The major public policies to promote labour opportunities for the young focus on interventions upon the formal education system by extending the number of years in compulsory education and increasing the educational offer so as to provide a wider range of qualified skills. The negative side of the model is expressed in terms of longer dependence on family ties. As a result of this, the profile of young individuals entering the labour market in the last twenty years has suffered continuous transformations along two aspects: they are young people delaying their entry in the labour market, thus delaying their opportunities in starting a family of their own while achieving greater levels of formal qualifications. This is more particularly true for young women.

Nevertheless, the most significant transformations taking place in recent years are to be attributed to flexibility in contracting modalities implemented as from 1984. The coincidence of these reforms and the expansive situation of the labour market itself have contributed to the almost general implementation of time-limited contracting modalities for the young. Between 1987-1990 time-limited contracts increased from 48.2% to 78% for ages 16-19, and from 31.5% to 61.6% for ages 20-24. Such institutional change has clearly favoured youth rotation between occupation and unemployment periods, so that the configuration of youth unemployment was equally modified. Between 1987-1995 the total amount of unemployed under 30 years of age was quite similar but, in 1987 only one out of every four young people unemployed would count with some labour experience whereas in 1995 three out of four would.

The situation in Asturias adds to the national context of youth unemployment some aspects (Gutiérrez, 1994): on the one hand, the presence of few large companies in the basic sectors i.e. mining, energy, iron and steel works, chemicals - some of which are state-owned - provides the configuration of an industrial sector with its traditional internal markets. On the other hand, multinational enterprises - usually open to innovations of the sort herein described - are scarce in the region, thus retarding the diffusion of such practices if any.

3. HRM AND WORK CAREERS: FOUR COMPANY CASES

The main observations referred to in the present paper have been registered in an attempt to analyse developments in local labour markets of an old industrial area (the region of Asturias, in the north of Spain). Our research is based on two kinds of empirical observations. In the first instance, a case analysis was performed on sixteen companies in the region, particularly in the chemical and metalworking sectors, which are introducing these new forms of production and management (NPS and HRM). Their human resources strategies, the way they recruit and select new employees, their requests regarding skills requirements and abilities and their career planning are examined. In a second phase of the

survey, a series of qualitative interviews was run on young employees (3-5 people at a time) working at the companies involved in the study so as to register the variety of their initial careers, their subjective experiences and expectations.

Only four out of the sixteen companies that took part in the study are herein presented, either because they are representative enough of the remaining ones or else because they have hired the largest number of new workers in the last few years. The following table (Table 1) shows the most outstanding features of the four companies in relation to factors which vehicle the diffusion of HRM practices, that is, their market position, their corporate identity and NPS modality adopted.

Table 1
FOUR FIRMS PROFILE

Firm A	Firm B
• French multinational	• Leading USA chemical
• Automobile glass-manufacturing	• Manufacturing of synthetic fibres
• 396 employees (cut-backs in the last few years)	• 390 employees and growing (new plants being opened)
Market position	**Market position**
• Automobile components. Likely to expand but under pressure from European competitors on costs and quality	• International market in expansion for input products to external clients and other companies in the group
Corporate identity	**Corporate identity**
• Old plant, union power, local tradition and paternalistic style	• Recently built plant (major foreign investment in the region). No union representation, no collective bargaining
• Strong strategic control	• Strong corporate culture; focus on safety, work ethics and teamwork values
• Managers from the factory itself	
New systems of production	**New systems of production**
• Automated technology	• Process technology
• New professional ranking with three categories in manufacturing and outsourcing	• Learning organisation
	• Multifunctional jobs
• Business units and quality circles in project	• Self organisation (bubbles)

Table 1 (cont.)

Firm C	Firm D
• German multinational plant • Escalator and drag-rolling platform manufacturing • 295 employees and growing	• US multinational plant • Engineering design, construction and maintenance of industrial plants • Flexible workforce hired upon company's needs
Market position • Leader in expanding market. Few high quality competitors	**Market position** • Few but regular clients. Many competitors • Difficulties to consolidate in Spanish market
Corporate identity • Recently built plant. Union power and collective bargaining • Executives from the group and recently engaged	**Corporate identity** • Recently built plant. High workforce mobility
New systems of production • Assembly technology. Small series under order • Strong quality control (ISO 9000) in a very automated system	**New systems of production** • Continuous performance appraisal and improvement • Client review process and dialogue survey • Re-engineering project

In the four cases presented which are, to some extent, the paradigm of our sample of medium-size plants belonging to multinational enterprises, personnel management styles are significantly relevant and improving. The implementation of HRM as firm philosophy, however, is very uneven: whilst Firm B follows a clearly defined line of action in human resources management within the context of "corporate identity", Firms A and C follow more traditional high-quality production schemes based upon a hierarchical organisation of their personnel and areas of activity.

As from here, the observations obtained for each of the cases presented will be checked against expectations resulting from HRM implementation. The practices of the companies herein described within the framework of labour trajectories (entry, training and learning, rewarding systems and career planning) are related to the most "promising" and typical strategic options in the HRM model (Table 2).

Table 2
FOUR FIRMS PROFILE ON WORK CAREERS

Firm A	Firm B
Workforce segments • Technicians and highly qualified and experienced workers with language skills • Poorly qualified workers • Temporary engagements	**Workforce segments** • Fixed core (80%): workers and white-collars employees on long-term basis undergoing continuous learning processes in a self-organisation model • Subcontracted employees: all external jobs are subcontracted, some on a permanent basis
Recruitment and selection • Newspaper advertising • Standard and technical testing, personal interviewing	**Recruitment and selection** • Newspaper advertising • Pre-selection on applications (thousands) • Exhaustive selection process: external agencies, 3 days testing period on group dynamics, personal interviewing with participation of "workmates-to be" (the future workmates of the selected applicants)
Learning and training • Initial training: manufacturing process and safety procedures for a week. Tutored on-the-job training. For technicians: 3 months learning period with occasional stays abroad • Continuous technical learning, computer systems skills in or out of workplace (CFNT), ISO 9000 requirements • Higher ranks employees and executive staff are subject to continuous learning within the group because of pressuring market demands	**Learning and training** • Exhaustive training for months before they start on the job with courses on social issues • Continuous learning at all levels is part of the corporate strategy
Promotion and career planning • Few opportunities, given the characteristics of plant and workforce • Internal bids to cover vacancies in staff	**Promotion and career planning** • There is no "fixed" occupational hierarchy; promotion is offered in relation to skills, responsibility or performance achievement
Reward systems • Collective bargaining of wages through union representatives • Fixed wages and collective incentives on production (never over 10% out of salary) • Trade unions strongly oppose to greater flexibility or multifunctionality	**Reward system** • Fixed contract modality in accordance to wages as regulated in the sector. The company pays 2 points above normal per job-post. Individual negotiation of wages

Table 2 (cont.)

Firm C	Firm D
Workforce segments • Fixed core (5%): Highly qualified technicians with professional expertise and leadership potential. Mean age: 40. Severe selection. Long and costly initial training periods. • Some qualified workers (70%), less sophisticated selection process (through in-practice, previous engagement); on-the-job tutored training; long consolidation phase (3 years temporary engagement). Mean age: 25 • Flexible periphery (25%): hired through Temporary Employment Agencies at peak production periods. Usually poor qualified	**Workforce segments** • Highly mobile: in permanent adjustment to market demands or needs • Experts: highly qualified engineers and administration employees, some engaged form abroad • Technicians and white-collars on-time limited contract modalities. Very well paid
Recruitment and selection • Newspaper advertising and own data base • Most new recruitments are engaged through data base information. Requirements can be checked against registered behaviour and performance (most candidates have undertaken in-practices or were previously engaged at the company) • Personal interviewing	**Recruitment and selection** • Newspaper advertising and own data base • Personal interviewing • Co-operation with public agencies, regional (IFR) or national (INEM) for the 6 months training programme designed as part of selection process
Learning and training • Initial training in reaction to job-post; courses on product-line and processes; on-the-job tutored training • Continuous technical learning to meet ISO 9000 standards	**Learning and training** • Ready engagement • CPI-programme within the context of company's total quality scheme; course leaders; co-operation with INEM
Promotion and career planning • Workforce increasing in number; promotion opportunities • Mixed systems for internal exams-based promotion and performance appraisal in attempt to sustain professional ambitions	**Promotion and career planning** • Difficulties to establish a promotion or career system due to continuous mobility; promotion opportunities arise between projects or on performance appraisal basis
Reward systems • Collective bargaining of wages through union representatives • Fixed salaries and incentive to productivity allocated collectively (10-15% of salary) • Traditional organisation or professional levels. No rewards to years of service	**Reward system** • Most employees engage under time-limited contracts on fixed salaries. Wages are above normal to compensate for employment instability

3.1. Entry to work

"Selection and assessment are increasingly seen as being critical to large-scale processes of organisational change" (Iles and Salaman, 1995; p.203). The trends in entry processes could be explained as a transition from a "psychometric model" to a "social model". The former aims at capturing the largest number of applicants in possession of the skills and competence required to fulfil the company's expectations for a given task or job-post, whereas the "social model" aims at achieving adjustment between the company's needs and the applicant's expectations notwithstanding the requirements and skills demanded from the potential worker. The social model operates by means of realistic negotiation of "the contract" (psychological and/or legal) and socialisation, so that the potential worker can play his/her role in the company as expected. This particular sphere of action is in fact part of what has been termed "Corporate Culture" and "Psychosocial Production" of the employee.

The practices observed in the four cases presented can be summarised in three chapters: entry-post profile, recruitment and selection processes. For entry-post profile, companies follow similar trends regarding description of requests and skills from applicants but they differ in what regards the "status" of the job-posts being offered. The companies usually describe the posts offered on the basis of minimum requirements in formal education and second level Vocational School degrees (FP2 in Spain), and so it is for most of the openings in the production line with the companies studied. However, in the case of Firm A, where most of the jobs are routine-based, the specific skills can be achieved in a few days after entry.

In every case, entries require previous professional experience; this seems to be understood more in relation to the individual's level of maturity than in relation to his/her specific skills achievement, though the latter may be determining in some specialised market segments.

It is also quite common to find job-profiles described in terms of social or attitudinal skills and abilities, such as "flexibility", "eagerness to learn", "enthusiasm", "communication skills", etceteras. While in some market segments the focus is set on leadership and decision- making abilities, it seems that for rank and file workers, the profile points to "an ordinary person" who can readily join a work-team.

The status of entry-jobs differs from one firm to another in the sample. The trends range between "collective" and "dual" which mark the differences between "definite" and "temporary" entry positions. The term "temporary entry" applies to the trial period undertaken by newcomers before they have eventual access to definite positions. The recent deregulation of contracting modalities has favoured "temporary entry" situations in most companies studied. Moreover, temporary contracts can be extended in time (some years) so that a "definite position" will only be granted to highly qualified and skilled people in the Firm.

Recruiting young workers is not difficult in a situation where qualified workmanship is readily available. Companies seek the aid of private employment/recruitment agencies only when higher qualifications and specific skills are requested. However, it is not "head hunters" they go to, as they are usually costly and little effective services.

Newspaper advertising is the most frequent formula for recruiting, sometimes supplemented with the aid of "informal" recruitment systems (friends or relatives already with the company involved; local institutional contacts) and data bases where curricula (CVs) on eventual workers or individual applications are stored.

FIRM C counts with an elaborate recruitment system, thus reducing to some extent the selection process. They have choice access to potential workers through three ways: in-practice/student files, referred to the firm by vocational schools; eventual workers who have deployed services at the firm; and a data base on curricula (CVs) and personal interviews.

The company has procured itself a large group of potential employees who are already familiar with the workplace and production systems. These are people who have been observed and assessed while formerly engaged with the company and thus they meet the requirements to readily join in.

The selection channels or modalities do not usually go beyond pre-selection of curricula, technical skill testing and personal interviews. As applicants usually exhibit a good profile in what regards academic achievement, their attitude through the personal interview becomes a determining selection criterion. Many companies engage Personnel Management Consulting Agencies for the technical and psychometric testing of candidates.

FIRM B is an exception regarding the selection process. After a curricula-based pre-selection phase (20 000 applications for 300 job-openings), the potential candidates undergo interactive testing protocols for a 3-day period. At this stage, there is active involvement of staff members, qualified experts from the Consulting Agency engaged and the candidate's future workmates.

The process takes place months before the new plant/factory is opened, so as to secure time for exhaustive training of the newly-enrolled. Thus, "selection" is integrated within the training process needed for the configuration of a work-force, whose members will eventually act as a set of highly competitive work-teams with co-operative individuals working within a "corporate atmosphere".

For the young selected and joining a multinational enterprise, this initial stage poses a challenge to consolidate personal expectations for the future, both in professional transition as in social status progression. In a difficult labour market scenario, and perhaps after several point-experiences at eventual jobs, those young employees are fully aware of the importance of capturing an opportunity where there is one, and they compete hard to achieve a stable situation in a strongly established firm. They are eager to learn, improve and adapt to market demands so as to move on from "temporary" positions in the firm to "the definite one". Those who have experienced the process usually admit to the hard but, nevertheless healthy and motivating, competition. Such dynamic and competitive atmosphere at newly-opened plants/factories in markets in expansion may sometimes bring about difficulties to older employees who have to compete with these "eager" newcomers.

3.2. Learning and training

Whether or not such level of commitment/involvement responds to the general trend, remains to be confirmed. In order to do so, the most suitable indicators to take into account are:
- whether the company counts with a Training Unit within its organisational structure (expert trainternals and budget);
- whether there are employees acting as trainers;
- mean training periods per worker.

With regard to the newly engaged, a good indicator would be whether the company counts with specific task-oriented training programmes and whether or not the newcomer rotates through different job-posts or work units. The most frequent way through which companies start out on these activities is the implementation of "Total Quality" programmes or "Client Dialogue Survey" strategies.
In most cases studied, there is someone responsible over HR (Human Resources), whose task is to design a training scheme in close co-operation with the heads of the different production units. They come to him/her and present their needs regarding technical aspects to be covered and always in compliance with the company's quality standards (ISO 9000). The HR Division organises in-training courses either tutored by technical experts - but not qualified for educational purposes - or else request the aid of external professionals from Consulting Agencies. The attempts to include social issues in the training schemes (i.e. group dynamics, teamworking techniques...) are still poor and scarce and, if any, they are mainly oriented at staff members (i.e. courses on leadership improvement).
Despite the great efforts companies are taking in implementing learning and training programmes, we can still observe some degree of discrepancy between HRM philosophy and reality. Workers and Union representatives involvement in the design of training schemes is very poor, if any. However, individual training initiatives (i.e. attending courses, self- learning...) are better welcome and acknowledged by the Managing Boards.

Once again, FIRM B becomes the exception: they manage their human resources through "bubbles", a self-manage tool deployed with personnel from the production shifts and units. In close co-operation, they work on the continuous training scheme with direct involvement of all production teams whilst workers get familiar with managerial issues. On the other hand, the company has started contacts with other experts in HRM and Training who are also involved in the planning and development of activities. The different courses being offered to employees cover issues such as how to improve knowledge of English as a Second Language or how to give up smoking. Not only employees but also their families can take part in the courses. Both, the offer and incentives, and the way of organising things respond to the concept of "training" as a fundamental component in a modern, flexible organisation and favour the development of a corporate identity.
Globally speaking, it can be confirmed that training policies supported by public or semi-public agencies can vehicle motivation and improve quality in the production process as well as reinforce links between formal education and labour market demands.

FIRM D has designed a long-term training programme on "total quality" in close co-operation with the National Employment Agency (INEM) and the Regional Authorities, having most of its workforce completed it by now. Three of the four selected companies

also benefit from the services being offered by the Centre for the Training in New Technologies (CFNT) located in the region.

3.3. Reward systems

According to HRM philosophy, wages will more and more depend on performance-based reward systems featuring a variety of incentives to productivity, quality, improvement, suggestions, attendance rates (so as to minimise labour absenteeism), security (so as to reduce accident rates) which are either individually or collectively allocated.
Regarding this issue, there seems to be a great gap between reality and philosophy. The companies we studied are still run on fixed-wages basis, be it through collective negotiations or individual contract arrangements. Appraisal or rewarding interventions are merely symbolic, be it in the shape of "employee of the year" nomination, "best improvement suggestion", etc.

Incentives to production are usually allocated collectively and employees seem to inwardly understand these practices as part of their pre-fixed salaries. Some executives say that their attempts to introduce variable elements in the reward systems have often failed due to strong opposition on the part of Union representatives.

3.4. Promotion and careers

The new production systems (NPSs) tend to deepen the gap between professional careers by dividing trajectories into two: the initial career to achieve and consolidate "status" within the company involved and the professional career itself. For both there is greater flexibility and complexity, a clean break from the linear career model of fordism.

Promotion systems are deeply influenced by market position and the strategic location of the company in it. While plants/factories in expansion offer a wide range of opportunities for promotion and change (FIRMS B and C), those with a fixed workforce and in a reverse situation marketwise (FIRM A) or in a situation of continuous market mobility (FIRM D), where most employees are engaged on time-limited contracts, can hardly offer promotion opportunities. That, of course, may bring about motivation shortages for the company involved.

For stable, high rank employees, companies try to secure and renew their psychological commitment (corporate identity). For those in lower positions, promotion initiatives usually take the shape of internal competition to cover vacancies on fixed-wages basis. Once again, the situation of the labour market reduces the risk of a yet greater mobility for employees because of the lack of career perspectives.

4. CONCLUSIONS

Our initial conclusions are basically founded upon three important questions:

Which trends can be detected in labour trajectories?
Globally speaking, we can say there is a big gap between HRM philosophy and real practice. Amongst the sixteen companies in the sample and for the remaining companies in the region on which we have information and knowledge, there is only one case (FIRM B)

where an integrated HRM strategy is applied as philosophy. There is another one, but in this case the company employs mentally-disabled workers and thus, their specific peculiarities ought to be separately considered.

The gap becomes even bigger when issues such as reward systems and career planning are examined. Here, there is little variation on the traditional systems with regard to fixed-wages and promotion opportunities.

The trends to "two-tired employment relations" within the extension of NPS have been clearly confirmed in our study. The employees are polarised around a "core" of qualified staff and progress in a regulated internal labour market. A wider range of non-conventional employment relations operate in the periphery.

Amongst the selection criteria, the "non-technical" requirements take an increasing significance over traditional professional attitudes. While the latter ones are already a part of the selection process, personal interviews are the tool to discover the "ideal employee/worker" described as he/she who exhibits both enthusiasm and commitment. We have found only some exceptional cases with innovations in what regards methods of selection.

The "trial phase", an initial stage in job trajectory, is extended for several years in some instances, so that the achievement of a consolidated "status" becomes the first objective for the young; however, status achievement does not always lead to a stable position within the company in terms of contract endurance. The later progression stage in career trajectories is usually slow but steady, featuring both appraisal and competition over vacancies within.

Which factors account for NPS and HRM diffusion?

Though not easily assessed regarding individual significance, these factors fall in the following two categories.

External factors: competitive pressure, the belonging to a multinational group, the relations with clients, legal and regional conditions (i.e. quality standards and safety requirements; infrastructure regarding training and development policies; educational system; labour relations culture) are all factors with a strong but uneven influence upon the companies' HRM strategies. Some companies are continuously subject to auditing protocols, cost reduction scheme implementation, "total quality" programmes and New Technologies deployment and they find it very difficult to escape from the inflexible labour relations context in which, they move, whereas other companies can act freely when designing their market strategies and HRM implementation.

Internal factors: Corporate identity and culture; executive know-how on HRM; tenure; style of employment relations; informal relations with the surrounding context, etc., are factors which can successfully influence enterprise management and thus favour the introduction of HRM strategies (much more than implementation of new technologies). The most striking differences can be found in NPS practices that go beyond the short term cost reduction horizon (i.e. time-limited contracting measures or subcontracting strategies).

What does it all mean in relation to potential youth entries in the labour markets?

First of all, the young have to move in a labour market which is clearly hostile to their generation, as earlier generations can still benefit from job-securing systems. The young are subject to a moratoria before they can even consolidate a professional status. This process usually occurs in times of severe unemployment, thus casting a shadow of doom over entry opportunities for the young.

Secondly, youth - understood as a transition stage towards independence - has been extended in ten years during the last decade so that the stage is not conventionally covered until reaching the age of 30. Many young people complain about their "living an unreal life" which does not chronologically correspond to their actual realities, for most of these young people are forced to lead a "teenager life" at their parents' expense even though they are 30 years old.

Young people leaving school are faced with great challenges regarding career guidance, skill achievement and competition which add to the stressful evolution stage they are in. During this pre-entry period, the young person may experience a number of trajectories through several years of training, occasional jobs, unemployment periods, academic extension, etc. They do not receive any support other than material/economic support from their parents, as the experience of older generations regarding the labour market and social trajectories was entirely different in the past.

Young people are integrated in a highly individualised and competitive world, where social actors such as trade unions have lost much of their influence and values. It is young people themselves who draw a clear line between trade union power and their individual expectations; between their own social ambitions and global social achievements. There seems to be a "matching" between the request of companies and the proneness of young people towards permanent individual competition.

Last, but not least, an increase in failure rates regarding job-stability and status achievement is clearly observed and which accounts for the worrying social youth scenario (drug abuse, mental disorders, poverty and social exclusion). Compatibility of competitiveness and social skills is a priority in educational and training policies for the future.

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EDUCATIONAL ATTAINMENT IN FINLAND AND ICELAND
A COMPARATIVE STUDY

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Abstract

This paper compares the educational attainment of a one year cohort in Finland and Iceland and analyses completion and dropout rates in terms of parents' education, gender, educational achievement (grades in school) and country (different systems). The aim of the study was to investigate whether different school systems and access policies are likely to lead to different graduation patterns. Two classical theories of education are considered, functionalism and conflict theory. These theories that define the relation of school and society in very different ways are applied as a framework to think about schooling as preparation for the world of work. The results show that there is no difference in graduation rates from academic programs in Finnish and Icelandic upper secondary schools, despite different access policies, restricted access in Finland and open access in Iceland. Dropout, on the other hand is much more common in Iceland. Parents' education was found to be a good predictor of likelihood of dropout in Iceland and of educational choice (vocational vs. academic) in Finland. Thus, it is argued that these findings support the view of conflict theory claiming that the function of schools is to maintain the existing social structure. Different access policies and different systems seem to be unlikely to change that picture.

Résumé

Les niveaux éducatifs en Finlande et en Islande : une étude comparative

Cet article étudie les niveaux éducatifs d'une cohorte d'un an en Finlande et en Islande et analyse les taux de réussite et d'abandon en cours d'études en fonction des niveaux d'instruction des parents, du sexe, des performances scolaires (notes à l'école) et du pays considéré. Nous avons cherché à mettre en évidence si des systèmes scolaires et des conditions d'accès différents conduisaient ou non à des systèmes de certification différents. En matière éducative, deux théories s'affrontent : une théorie fonctionnaliste et une théorie du conflit. Ces deux théories qui définissent la relation entre l'école et la société sont utilisées ici comme un cadre théorique permettant de penser l'école comme une préparation au monde du travail. L'enquête montre que les taux de réussite aux examens à la fin de l'enseignement secondaire sont très voisins en Finlande et en Islande en dépit de politiques d'admission opposées : la Finlande adopte une attitude sélective à l'entrée, tandis que l'Islande pratique le libre accès. En revanche, l'abandon en cours d'études est une pratique courante en Islande. Le niveau éducatif des parents semble être une bonne variable explicative de l'abandon en cours d'études en Islande et être fréquemment lié en Finlande à l'orientation professionnelle (enseignement professionnel plutôt qu'enseignement général). Ces résultats semblent étayer la thèse du conflit qui affirme que le rôle de l'école est de contribuer au maintien du système social existant. Des politiques d'admission différentes ne semblent pas susceptibles de remettre ce fait en question.

1. INTRODUCTION

The relation between school and society is viewed from different perspectives by competing educational theories. The basic insight of functionalism is drawn from the field of biology and pictures the school as an "organ" of society, like a heart or a lung, functioning properly to keep the "body" going. Functionalists see the school as teaching students to adapt to society, thus furthering the survival of the social system. According to this view, schools serve basic survival needs by using standardised tests or tracking students into different lines of study that prepare them for performing different tasks. Selection and training processes are needed to assure that jobs get done as well as to control the supply of workers into various fields. Expanding needs for new skills in international competition require that opportunities are opened to talented people. The principle of equal educational chances is supposed to prevent any influence of gender, ethnic or family background (Feinberg and Soltis, 1992; Rothstein, 1996).

Conflict theorists, on the other hand, view schooling as an instrument of class domination serving to reproduce the workforce and maintain class relationships. They criticise functionalism for hiding the power relations in society and emphasise that those in power support and utilise schools to maintain their dominance in social order. According to conflict theory the driving force in society is the continuing struggle among various groups to hold power and status. School is seen as an important instrument in this struggle by providing for the social reproduction of the status quo, thus serving the privileged class. In schools, labour power of a certain kind is not only reproduced but also reproduces itself, both for the lower and upper end of the industrial hierarchy (Feinberg and Soltis, 1992; Bowles and Gintis, 1976).

These two theoretical approaches can be used as viewpoints to add to our understanding of the distribution of students into various tracks or study lines in upper secondary schools in the two Nordic countries under discussion, Finland and Iceland. According to conflict theory, an association would be expected between parental background on the one hand and type of schooling, years in school and completion rates on the other. Functionalists would rather draw attention to the relationship between grades on standardised or national tests (educational achievement) on the one hand and educational choice and completion rates on the other. Furthermore, they might emphasise that a school system which prepared students for a variety of tasks and occupations in the world of work would be adapting to the needs of modern society, whereas a homogenous school system might be lagging behind in technological and social developments.

A description of the upper secondary school system in Finland and Iceland

Compulsory education in Finland spans nine years, from the age of seven to sixteen. Schooling for six year old children is optional. After compulsory school students have a choice of three options: academic track, vocational track or no further education. In recent years, over 90 % of a year cohort enroll in some kind of upper secondary education, about 60 % in academic programs and 30-35 % in vocational programs, including those who enroll in vocational education organised by the Ministry of Labour. Only one third of students graduating from gymnasium schools (single track

academic schools) is accepted at the university, leaving two thirds with the option of enrolling in vocational education where they can acquire a second upper secondary diploma[1].

The policy target is that everyone should have some kind of vocational education, but about 16-18 % of young adults aged 24-25, are without any kind of qualifications after compulsory school[2].

Access to upper secondary academic education in Finland is restricted. Admission to different tracks of upper secondary education depends on grades in compulsory school. Assessment is based on school tests but not on a national or standardised testing system[3]. Average grades are used to select students into academic tracks, but admission requirements can vary from one county to another depending on the number of gymnasium schools in the area.

In Iceland, compulsory education requires ten years of schooling from 1st grade (six years of age) through the 10th grade. The Icelandic upper secondary schools of today, established for students aged 16 to 19 or older, are rooted in the old elite "Gymnasiums" (single track academic schools), which were highly selective in their admission policy and academic in their goals, the old trade schools which prepared future craftsmen (single track vocational schools), and the middle schools. Since the 1970s, however, the Icelandic upper secondary schools have operated within a comprehensive system (multi-track schools). Although defined as comprehensive schools by law since the 1980s, some schools offer only academic programs, and other schools are only vocational. Since 1988, the schools have been required by law to accomplish three main goals: to prepare students for adult life in a democratic society, for the world of work, and for further education.
Among the fields of study offered at the upper secondary level in Iceland are:
- university preparatory programs leading to a secondary academic diploma after four years;
- vocational programs, both school and work place based, with the majority of them connected to an apprenticeship and leading to a license;
- two year general programs, often with a cluster of vocational school-based courses, for example courses in business or health.
An open access policy at the upper secondary level was instituted in Iceland in 1988 but had been practised since the early 1980s. In the last few years, around 80-90 % of students completing compulsory education enroll in upper secondary schools (Menntamalaraduneytid -Ministry of Education-, 1991; Oskarsdottir, 1995). Before the open access policy, restrictive examinations controlled the enrollment and dropout in schools with academic programs. The upper secondary education system in Iceland seems not yet to have adjusted to this new situation; new programs have not become

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[1] The situation is changing, because a new non-university sector of higher education, polytechnics or "Fachhochschule", is being established.

[2] Just this year a new legislation was set to encourage young unemployed people under the age of 25 to seek vocational training by making them choose between loosing their unemployment benefits and enrolling in vocational education.

[3] A debate is going on in Finland about what kind of testing is needed to be able to make "better evaluations" of the results of learning in the compulsory system.

popular and dropout rate is high. The latest political action to respond to the high dropout rate demonstrates an admission of failure by proposing the elimination of the open access practice (Mennntamalaraduneytid, 1993; 1996). In spite of the high percentage of each cohort enrolling in upper secondary school, only around half of each cohort graduates, a majority of them from academic programs which are university preparatory by definition. In 1965 around 10 % of an age cohort graduated from university preparatory programs. Ten years later, or in 1975, this proportion had increased to over 20 %, and in 1992 it had reached 35-40 % (Jonasson and Jonsdottir, 1992). Only a small percent graduate from vocational programs, often a combination of school and trade apprenticeship or shorter general education programs. Around 50 % drop out, the great majority from academic programs, which they leave after one, two or three years of study. Thus, it is questionable how well the secondary schools have achieved their goal of preparing those students for work who do not extend their education to the next school level (Oskarsdottir, 1995).

The educational systems in Finland and Iceland are similar in having compulsory education until the age 15/16 in a comprehensive school, followed by upper secondary education for one to four years.
The upper secondary system, however, is different. In Finland there are specialised schools for academic university preparatory programs (3 years) and specialised vocational schools with programs of various lengths. Access to the academic programs is restricted on the basis of compulsory school grades. In Iceland, on the contrary, the majority of upper secondary schools include both academic (4 years, university preparatory) and vocational programs (1-4 years), though there are also a few specialised schools. Although one could argue that both school systems are based on the fundamental principle of equal educational opportunities, one might claim that the Icelandic system goes a step further than the Finnish by not restricting access to the academic programs.
This difference in the access policies in the two countries opens possibilities for examining whether different school systems mediate the effects of gender and parental background on educational choices and achievement. The major aim of the study was to investigate whether different school systems and access policies are likely to produce different graduation patterns in terms of the proportion of students completing various study lines and the association between social background and educational attainment.

2. METHOD

2.1. The Finnish data

In Finland, a sample of 2 520 people born in 1969 was surveyed at the age of 14[4], 18/19 and 25/26 years[5]. The sample was a stratified sample with a class of students being the sampling unit. The population was broken down into 12 strata according to the Finnish counties. The sample represents students completing the 8th grade of compulsory school in 1984. Information about their highest qualifications was obtained from the Finnish Statistical Centre in 1994. A postal follow-up study of the

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[4] This research was a part of IEA/Science Program, see Rosier M. J. and Keeves J. P., 1991.
[5] The last survey is not completed.

same sample was conducted in 1988 (with 72 % response rate) and a second one is being carried out in 1996. The particular sampling method described above yields a more homogeneous sample than a simple random sample (estimated inter-correlation 0.062, see Goldstein and Paterson, 1991). On the other hand, this method opens possibilities for multilevel models. In the spring of this year a comparable study with 70 % response rate was done on a younger cohort of people, i.e. those born in 1977. The same sampling method was used to select a smaller sample of 1 250 individuals. The 1969 and the 1977 cohorts in Finland are compared in appendix A.

2.2. The Icelandic data

In 1991, the Social Science Research Institute at the University of Iceland, studied the educational achievement of the whole cohort of students in Iceland born in 1969 by following their educational paths through upper secondary school, and those who had dropped out were surveyed in 1991 at the age of 22 (Jonasson and Jonsdottir, 1992). Two years later, in 1993, a sample of students from the same cohort was surveyed in a follow-up study with a special focus on occupational experience in early careers (Oskarsdottir, 1995). Most of the data described in this paper were collected in this follow-up study, although data on grades received on national achievement tests at the end of compulsory school were obtained from the 1991 study on educational careers.

The sample for this follow-up study included 1 000 subjects (aged 24 or 25) selected randomly from the whole cohort of people born in Iceland in the year of 1969. The response rate was 75 % (n=746, 363 males and 383 females). The survey was carried out by telephone interviews.

The questionnaire included questions about personal and societal circumstances, educational experience, further education and labour market experience - employment, working hours, job satisfaction, earnings and employability skills.

2.3. Variables and statistical models

The main focus of the research was to compare dropout rates from Icelandic and Finnish schools and completion rates in vocational and academic secondary school programs. To enable the use of regression analysis, three dichotomous dependent variables taking values 0 or 1 were created, i.e. vocational education, academic education and dropout. Logistic regression analysis was applied to examine the effects of grades at the end of compulsory school, gender, parents' education, and country on each dependent variable. Before the results from the regression analysis are presented, the relationship between the independent variable and each dependent variable are described and tested for statistical significance with chi-square. Log-linear analysis was used to test for interactions between country and each independent variable.

2.4. The independent variables

Four independent variables are used in the logistic regression models:
- country,
- gender,

- grades on national achievement tests at the end of compulsory school,
- parents' education.
Dummy coding was used for the variables country (0 for Finland and 1 for Iceland) and gender (0 for males and 1 for females).

Grades at the end of compulsory school in Finland and Iceland are given on a scale from 0 to 10. However the distribution of grades is quite different suggesting that the scale is not used in an analogous fashion in the two countries. In Finland the grades ranged from 5 to 9.9 but from 1.25 to 9.5 in Iceland. Hence, grades were standardised on a scale with the mean 0 and standard deviation 1 for each country before comparisons were made. After standardisation, the Finnish grades ranged from -2.68 to 2.42 and the Icelandic from -2.73 to 2.25.

Where the relationship between grades and the dependent variables is depicted in contingency tables grades have been recoded into three categories:
1) below average, i.e. 0.5 or more standard deviations below the mean,
2) average, i.e. from -0.49 std. units below the mean to 0.49 std. units above the mean;
3) above average, i.e. 0.5 or more std. units above the mean.

Parents' education was coded into three categories:
1) no education or incomplete secondary education,
2) upper secondary education (vocational or academic);
3) university education.
It was not possible to make a distinction between vocational and academic secondary education since there were no Finnish parents who completed academic secondary education and left school after that.

3. RESULTS

3.1. Relationships between the independent variables

As mentioned above, there seems to be a substantial difference in the use of the grade scale from 0 to 10 in Finland and Iceland.
Table 1 shows the average grades for males and females in both countries. Females receive significantly higher grades than males in both countries.

Table 1
Gender and grades at the end of compulsory school

	Finland		Iceland	
	Mean	Total number	Mean	Total number
Males	7.26	1 299	5.62	319
Females	7.91	1 221	5.91	358
Total	7.57	2 520	5.77	677

General linear analysis shows significant main effects of gender ($F_{1,3193}=95.6$; p ≤.001) and country ($F_{1,3193}=1447.0$; p ≤.001) and a significant interaction between gender and country ($F_{1,3193}=14.6$; p ≤.001).

The apparent difference in the use of the grade scale emphasises the need to standardise grades before comparisons based on this variable are made.

Table 2 shows the variable after standardisation and shows that the gap between males and females is considerably wider in Finland than it is in Iceland (interaction between gender and country is statistically significant).

Table 2
Gender and standardised grades in compulsory school

	Finland		Iceland	
	Mean	Total number	Mean	Total number
Males	-0.33	1 299	-0.09	319
Females	0.35	1 221	0.08	358
Total	0.00	2 520	0.00	677

General linear analysis shows that the interaction between gender and country is significant ($F_{1,2979}=15.7$; p ≤.001).

Parents' education has a strong and identical influence on grades in Iceland and Finland, but seems to have somewhat greater influence on the grades of males than females (see table 3). It might be worth pursuing in a separate study at a later stage how it may be that parental background has a weaker influence on the educational achievement of females than males.

As table 3 shows, females receive average grades or grades above average regardless of education of parents, although their grades increase with increases in parents' education in the same vein as the grades of males. These gender differences are found in both countries but are much more striking in Finland than in Iceland.

Table 3
Parents' education, gender and standardised grades in compulsory school

	Finland					Iceland				
	Males	Females	Total	*Total*		Males	Females	Total	*Total*	
	---- (mean) ----			*N*	*%*	---- (mean) -----			*N*	*%*
No sec. education	-0.56	0.17	-0.20	*1 085*	*46.9*	-0.38	0.00	-0.17	*148*	*21.9*
Upper sec. education	-0.25	0.41	0.08	*1 018*	*44.0*	-0.16	0.01	-0.07	*454*	*67.1*
University education	0.62	1.02	0.81	*211*	*9.1*	0.74	0.78	0.76	*75*	*11.1*
Total number				*2 314*	*100*				*677*	*100*

General linear analysis shows significant main effects of gender ($F_{1,2979}$=59.8; p $\leq$.001) and parents' education ($F_{2,2979}$=94.1; p $\leq$.001), a significant interaction between gender and country ($F_{1,2979}$=15.7; p $\leq$.001) and an interaction between parents' education and gender ($F_{2,2979}$=2,8; p=.059) very close to being statistically significant. Other effects are not significant.

The relationships between the variables above show that although the principle of equal educational opportunities may in theory prevent all influence of gender or parental background on people's chances of upper secondary school education, these variables will probably have a strong effect thereupon through their effects on grades, where grades are used as an admission criterion.

3.2. Dropout rates in Finland and Iceland

Students who never enroll in upper secondary school or leave upper secondary school without completing their studies are counted as dropouts. About 10 % of a year cohort in Finland and in Iceland never enroll in upper secondary school.

Thus the huge difference in dropout rates in Finland and Iceland depicted in table 4 is mainly due to a high dropout rate from the Icelandic upper secondary schools. Overall dropout rate in Iceland is 42 % but just under 18 % in Finland. No difference can be detected between dropout rates of men and women in Iceland, but Finnish males are more likely to drop out of school than females.

Table 4
Gender and dropout rate

| | Finland | | Iceland | |
	%	Total number in sample	%	Total number in sample
Males	21.3	1 299	42.7	363
Females	14.3	1 220	41.5	383
Total	17.9	2 519	42.1	746

Fewer females than males drop out of school in Finland (ChiSq=21.3; df=1; p ≤.001). No relation is between gender and dropout rate in Iceland (ChiSq=0.11; df=1; p=.743). Log-linear analysis shows a significant interaction between dropping out, gender and country (L.R. ChiSq=5.81; df=1; p=.016).

Apparently, it is much more common that students with compulsory school grades below average complete some sort of upper secondary education in Finland than in Iceland, but in both countries there is a substantial dropout rate in this group. Dropout rates among students with grades above average are much smaller, or 6.4 % in Finland and 12.8 % in Iceland. Although this difference is much smaller than the difference in dropout rates among students with lower grades, the likelihood of dropping out of an Icelandic school is always two to three times greater than that of an Finnish school (see table 5). This suggests that the Icelandic upper secondary schools are less successful than the Finnish schools in providing adequate educational opportunities for students who are not academically aspired.

Table 5
Standardised grades in compulsory school and dropout rate

| | Finland | | Iceland | |
	%	Total number in sample	%	Total number in sample
Below average (^{2}-0,5 std.)	34.1	806	68.4	196
Average (-0,49 til 0,49 std.)	14.4	825	39.2	263
Above average (^{3}0,5 std.)	6.4	888	12.8	218
Total	17.9	2 519	39.1	677

A strong relationship is found between grades and dropping out, both in Finland (ChiSq=230.7; df=2; p ≤.001) and in Iceland (ChiSq=133.6; df=2; p ≤.001). Log-linear analysis shows that the interaction between dropping out, grades and country is approaching significance (L.R. ChiSq=5.50; df=2; p=.064).

Parents' education seems to have a substantial effect on the likelihood of their children dropping out of school, both in Finland and Iceland, but this relationship is substantially stronger in Iceland (see table 6).

Table 6
Parents' education and dropout rate

	Finland		Iceland	
		Total number		Total number
	%	in sample	%	in sample
No educ. or incomplete sec.	20.1	1 085	57.3	171
Upper sec. education	16.1	1 017	41.5	494
University education	8.1	211	13.6	81
Total	17.3	2 313	42.1	746

A significant relationship is between parents' education and dropout rate, both in Finland (ChiSq=19,5; df=2; p ≤.001) and in Iceland (ChiSq=53,3; df=2; p ≤.001). Log-linear analysis shows a significant interaction between dropping out, parents' education and country (L.R.ChiSq=7,2; df=2; p ≤.05).

Logistic regression analysis shows that after grades have been controlled for there is no effect of parents' education or of gender on the likelihood of dropping out of school in Finland, but both grades and parents' education have a significant effect on dropout rate in Iceland. Despite the open access policy in Iceland grades have a similar effect on dropout rate as in Finland, but the interaction between grades and country was approaching significance.

Table 7 shows that students with average grades are substantially less likely than students with grades below average to drop out of school (0.34/1, or in other words, students with grades below average are 2.9 (1/0.34) times likelier to drop out than students with average grades), and students with grades below average are around 9 times (1/0.11) likelier to drop out than students with grades above average. The table also shows that 6.4 students in Iceland drop out of school without completing secondary education for every 1 student in Finland (odds are 6.41/1). However, an increase in parents' education in Iceland reduces this difference, the odds being 3.4/1 if the parents have completed secondary education[6] and 1.4/1 if they have university education[7].

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[6] $e^{1.858+(-0.639)} = 3.38$

[7] $e^{1.858+(-1.527)} = 1.39$

Table 7
Logistic regression - the effects of gender, grades and parents' education
on dropout rates in Finland and Iceland

	b	Exp(b) (Odds)	sig.
Constant	-0.691		***
Country	1.858	6.41	***
Grades			***
Average/below average	-1.089	0.34	***
Above average/below average	-2.173	0.11	***
Country * Parents' education			***
Iceland * Upper sec. education	-0.639	0.53	**
Iceland * University education	-1.527	0.22	***

Overall 80 % are correctly classified on the basis of this model. However only 25 % of the dropouts are correctly classified and 96 % of those who complete secondary school.

As a result of the open access policy in Iceland students are not directed into specific educational pathways on grounds of their compulsory school grades to the same extent as in Finland. This together with a limited offer of vocational education programs seems to result in a high dropout rate. However, the results also seem to provide ample support for the argument of conflict theory that the upper classes take care of themselves. As we saw there was not a great difference in the dropout rate of Finnish and Icelandic students whose parents had completed university education (1/1.4).

3.3. Vocational education in Finland and Iceland

It is much more common that the cohort born in 1969 finishes vocational education in Finland than in Iceland.
As table 8 shows, over 40 % of the Finnish sample have completed vocational education, either short or long, compared with 15.5 % of the Icelandic sample. The gap widens even further if those who have completed academic secondary education before going into vocational education are added. In Finland this group is around 20 % of the cohort, giving a total of over 60 % with vocational education. In Iceland, this only leads to an increase of 2.5 % leaving us with 18 % having completed vocational education.
The following analysis however, only considers students completing vocational education without completing academic secondary education first. As can be seen in table 8, males in Finland and Iceland are more likely than females to complete vocational education.

Table 8
Vocational education (short or long) and gender

| | Finland | | Iceland | |
	%	Total number in sample	%	Total number in sample
Males	47.3	1 299	19.6	363
Females	32.9	1 221	11.7	383
Total	40.4	2 520	15.5	746

Fewer females than males complete vocational education in Finland (ChiSq=54.4; df=1; p ≤.001) and in Iceland (ChiSq=8.7; df=1; p ≤.01). Log-linear analysis shows that there is no interaction between the variables (L.R.ChiSq=0.0002; df=1; p=.988).

Compulsory school grades seem to have a much greater directive influence on educational choices of Finnish than Icelandic students. More than half of the Finnish students completing vocational education (without completing academic education first) have grades below average.
The distribution among the Icelandic students is much more equal, with the largest number having average grades (see table 9).

Table 9
Compulsory school grades of students with vocational education

	Finland %	Iceland %
Below average (≤-0,5 std.)	50.1	38.5
Average (-0,49 til 0,49 std.)	40.8	47.7
Above average (≥ 0,5 std.)	9.0	13.8
Total %	100	100
Total number	1 017	109

ChiSq=6.14; df=2; p ≤.05

Almost two thirds of Finnish students with grades below average enroll in vocational education, and complete that education, but the comparable proportion in Iceland is just over 20 % (see table 10).

Table 10
Vocational education and compulsory school grades

	Finland		Iceland	
	%	Total number in sample	%	Total number in sample
Below average (≤ -0,5 std.)	63.3	806	21.4	196
Average (-0,49 til 0,49 std.)	50.3	825	19.8	263
Above average (≥ 0,5 std.)	10.3	888	6.9	218
Total	40.4	2 520	16.1	677

A strong relationship is between completing vocational education and grades, both in Finland (ChiSq=542.4; df=2; p ≤.001) and in Iceland (ChiSq=20.5; df=2; p ≤.001). Log-linear analysis shows a significant interaction between vocational education, grades and country (L.R. ChiSq=14.3; df=2; p ≤.001).

Education of Finnish parents appears to have a much stronger effect on educational choices of their children, than is the case for Icelandic parents and their children (see table 11).

Table 11
Vocational education and parents' education

	Finland		Iceland	
	%	Total number in sample	%	Total number in sample
No educ. or incomplete	50.0	1 085	15.2	171
Upper sec. education	38.3	1 018	17.2	494
University education	9.0	211	6.2	81
Total	41.1	2 314	15.5	746

A relationship is found between completing vocational education and parents' education, both in Finland (ChiSq=128.2; df=2; p ≤.001) and a weaker, but still significant relationship in Iceland (ChiSq=6.5; df=2; p ≤.05). Log-linear analysis shows a significant interaction (L.R. ChiSq=8.4; df=2; p ≤.05).

Logistic analysis shows that Finnish students with compulsory school grades below average are 5 times likelier than Icelandic male students to complete vocational education (the odds for Iceland vs. Finland are 0.2/1) and more than 10 times likelier than Icelandic females (see table 12). However, the interaction between country and grades shows that with higher grades this difference almost vanishes, Finnish students with average grades are 2.6 times likelier than Icelandic students with comparable grades to complete vocational education but there is no difference in the likelihood of Icelandic or Finnish students with grades above average completing vocational education (10 % or less of this group graduate from vocational secondary school). The higher the educational attainment of the parents, the less the likelihood of children with grades above average enrolling in (or graduating from) vocational education.

Table 12
Logistic regression - the effects of gender, grades and parents' education on the likelihood of completing vocational education in Finland and Iceland

	b	Exp(b) (Odds)	sig.
Constant	0.604		***
Country	-1.610	0.20	***
Country * gender	-0.762	0.47	***
Grades			***
Average/below average	-0.233	0.79	n.s.
Above average/below average	-2.314	0.10	***
Country * grades			***
Iceland * Average/below average	0.660	1.93	*
Iceland * Above average/below average	1.660	5.26	***
Grades * Parents' education			***
Average/below average* Upper sec. ed.	-0.479	0.62	***
Average/below average* University ed.	-1.973	0.14	***
Above average/below average* Upper sec. ed.	-0.469	0.63	*
Above average/below average* University ed.	-2.089	0.12	***

Overall 74 % are correctly classified on the basis of this model, 65 % of those who complete vocational education and 79 % of others.

The results that show that the education of Finnish parents has a strong effect on educational choices of their children, together with the finding that parents' education has a much greater effect on dropout rates in Iceland suggest that the Icelandic system has failed in providing adequate upper secondary education for students with lower compulsory school grades. Two alternative explanations for this failure are the lack of vocational education programs and the unrestricted access to the academic programs. Although both the Finnish and the Icelandic school systems are supposed to be operating according to the principle of equal education opportunities, it is clear that parental background has a very strong effect on educational choices and the likelihood of dropping out. Again, the findings seem to support the view of conflict theory that labour power of a certain kind is not only reproduced in schools, but also reproduces itself, both for the lower and upper end of the industrial hierarchy.

3.4. Academic secondary education in Finland and Iceland

Roughly 40 % of the Finnish and Icelandic cohorts born in 1969 have completed academic upper secondary education. In both countries, females are in majority. More than 50 % of the Finnish females born that year have graduated from academic upper secondary school programs, compared with only 31 % of the males. The difference in completion rates for Icelandic males and females is somewhat smaller, where nearly 38 % of the males have graduated from academic programs and nearly 47 % of the females (see table 13).

Table 13
Academic education and gender

| | Finland | | Iceland | |
	%	Total number in sample	%	Total number in sample
Males	31.3	1 299	37.7	363
Females	52.8	1 220	46.7	383
Total	41.7	2 519	42.4	746

Fewer males than females complete academic education in Finland (ChiSq=119.1; df=1; p ≤.001) and in Iceland (ChiSq=6.2; df=1; p ≤.05). Log-linear analysis shows a significant interaction between the variables (L.R. ChiSq=9.5; df=1; p ≤.01).

Table 14
Compulsory school grades of students with academic education

	Finland %	Iceland %
Below average (≤ -0,5 std.)	2.0	6.6
Average (-0,49 til 0,49 std.)	27.7	35.6
Above average (≥ 0,5 std.)	70.3	57.8
Total %	100	100
Total number	1 051	303

ChiSq=27; df=2; p ≤.001

Analysis of compulsory school grades of students who have completed academic upper secondary education shows that the Finnish students are a much more homogenous group in terms of grades than the Icelandic students. A substantially

higher proportion of the Finnish students have grades above average, reflecting the difference in admission requirements in the two countries.

Table 15
Academic education and compulsory school grades

| | Finland | | Iceland | |
	%	Total number in sample	%	Total number in sample
Below average (≤ -0,5 std.)	2.6	806	10.2	196
Average (-0,49 til 0,49 std.)	35.3	825	41.1	263
Above average (≥ 0,5 std.)	83.2	888	80.3	218
Total	41.7	2 519	44.8	677

A strong relationship is between completing academic education and grades, both in Finland (ChiSq=1150.3; df=2; p ≤.001) and in Iceland (ChiSq=207.3; df=2; p ≤.001). Log-linear analysis shows a significant interaction between academic education, grades and country (L.R. ChiSq=18.1; df=2; p ≤.001).

The education level of the Icelandic parents is higher than of the Finnish parents. Over 45 % of the parents of the Finnish sample have not completed any upper secondary education. A comparable figure for the Icelandic sample is much lower or around 23 %. However, the effect that parents' education seems to exert on the probability of their children completing secondary education is identical in the two countries (see table 16).

Table 16
Academic education and parents' education

| | Finland | | Iceland | |
	%	Total number in sample	%	Total number in sample
No educ. or incomplete	30.0	1 085	27.5	171
Upper sec. education	45.5	1 017	41.3	494
University education	82.9	211	80.2	81
Total	41.6	2 313	42.4	746

A relationship is found between completing academic education and parents' education, both in Finland (ChiSq=215.4; df=2; p ≤.001) and in Iceland (ChiSq=63.3; df=2; p ≤.001). Log-linear analysis shows that the relationships are identical in the two countries (L.R. ChiSq=0.1; df=2; p=.970).

Gender, grades and parents' education influence graduation rates from academic upper secondary school programs in both countries in similar ways. Logistic regression suggests that less than 3 % of males with grades below average and whose parents have not completed any upper secondary education can be expected to graduate from academic secondary school programs, but if their grades are above average more than 70 % would be expected to complete academic secondary education (see table 17).

Table 17

Logistic regression - the effects of gender, grades and parents' education on the likelihood of completing academic education in Finland and Iceland

	b	Exp(b) (Odds)	sig.
Constant	-3.577		***
Gender	0.267	1.31	**
Grades			***
Average/below average	2.442	11.50	***
Above average/below average	4.449	85.52	***
Parents' education			***
Upper sec. education	0.560	1.75	***
University education	1.888	6.61	***

Overall 81 % are correctly classified on the basis of this model, 71 % of those who complete academic education and 88 % of others.

The results show that although grades at the end of compulsory school are the main determinant of the probability of completing academic upper secondary education, both gender and parents' education have a strong effect. What is the most surprising is that despite the difference in admission requirements the result is the same. Completion rate from academic upper secondary school is 41.7 % in Finland and 42.4 % in Iceland.

4. DISCUSSION

No differences can be found in graduation rates from the academic upper secondary programs in the two countries despite the different access policies, i.e. restricted access to such programs in Finland and open access in Iceland. There is a strong association between social background and educational attainment in both countries. The results advocate the view that not only do schools strengthen the reproduction of the existing class system, but the classes also reproduce themselves. Different access policies do not influence these tendencies.

We believe that the enormous differences in dropout rates in Finland and Iceland can best be explained with different emphasis on vocational education in the two countries. The Icelandic dropouts and the graduates from vocational programs in Finland show great resemblance in terms of grades and parents' education, making it likely that these people will engage in similar employment after they leave school. The major difference in their preparation for the world of work, however, lies in the fact that the Finnish school system provides their training whereas this is neglected by the Icelandic system and left to the employer.

Based on the theories discussed above, we would like to argue that our results support the view of conflict theorists that view schooling as an instrument to reproduce the workforce and maintain class relationships. According to functionalist theories one would expect that providing equal opportunities for secondary education should reduce class differences. The result that we see before us, however, is that a system with open access to every student regardless of his or her previous educational achievement, does not automatically lead to a higher proportion of graduates from upper secondary schools than a system with restricted enrollment. In other words, the open access system does not produce a proportionally higher or a lower number of graduates from academic programs than the more restricted system.

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APPENDIX

SITUATION IN FINLAND IN THE 90s

The economic situation in Finland has changed dramatically in this decade. Economical depression is severe and unemployment rates are very high, at least 17-18 %. Among young people the figures are even higher, about 30-32 %. The reactions of the Finnish youth has been: we need more education! (see table A.1.).
Enrollment[8] in the academic track has increased, the short vocational education and dropout have decreased.

Table A.1
Educational situation 3 years after comprehensive school

Year/Education	Acad.	Voc/long	Voc/short	No ed.
1988				
N	974	444	275	162
r%	**52,51**	**23,94**	**14,82**	**8,73**
ChiSq.	3,7637	0,0661	11,2476	2,1533
1996				
N	548	216	55	50
r%	**63,06**	**24,86**	**6,33**	**5,75**
ChiSq	8,0342	0,1410	24,0095	4,5965

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	58,512	0,0000
Pearson	54,012	0,0000

If we try to explain the educational situation three years after comprehensive school, we get the following results (see tables A.2 and A.3).

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[8] These figures are based on two surveys, in 1988 and 1996, three years after leaving the compulsory school (see 2.1. Finnish data). These figures express the entrance, not the amount of qualifications. The level of response is almost the same in both surveys. There is an underrepresentation of dropouts, especially men, in both surveys.

Table A.2
Response: Academic

Whole-Model Test

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	813,1797	6	1626,359	0,000000
Full	960,2954			
Reduced	1773,4751			

RSquare (U)	0,4585
Observations	2592

Parameter Estimates

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	31,7205355	3,2452707	95,54	0,0000
Grades/fin	-3,9519625	0,4172525	89,71	0,0000
Pared	-0,5620112	0,0723727	60,30	0,0000
Environs/mc	-0,2836196	0,1098762	6,66	0,0098
Year	0,39476407	0,1517402	6,77	0,0093
School/pared/mean	-6,2868665	1,6425499	14,65	0,0001
Grades*School/pared	0,76341120	0,2114653	13,03	0,0003

Explanation:
Pared = Parents' education
Environs = Postcode based indicator of the social neighbourhood of the schools
School/pared/mean = The average level of parents' education in each school

Table A.3
Response: Dropout

Whole-Model Test

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	129,49066	8	258,9813	0,000000
Full	576,32920			
Reduced	705,81986			

RSquare (U)	0,1835
Observations	2925

Parameter Estimates

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-13,235598	2,3459057	31,83	0,0000
Grades	1,75709489	0,3117013	31,78	0,0000
Pared	-2,0255173	0,9986218	4,11	0,0425
Pared*Grades	0,48820943	0,1477753	10,91	0,0010
Environs/el	-4,3040775	1,1377784	14,31	0,0002
Grades*Environs/el	0,58966212	0,1626397	13,14	0,0003
Year	10,0088549	1,9763389	25,65	0,0000
Grades*Year	-1,1286482	0,2459824	21,05	0,0000
Pared*Year	-0,7772882	0,2656925	8,56	0,0034

Explanation:
Pared = Parents' education
Environs = Postcode based indicator of the social neighbourhood of the schools

We can see for instance that:

-The explanation power of these variables is much stronger with the division between academic vs. others than the division of dropout vs. others.

- Parents' education is more important for the entrance to academic track than for the dropout, and the effect of parents' education on the dropout has lost its power.

-The social neighbourhood of the students of the schools has an affect on both cases, but in a different way: in the case of academic vs. others the effect comes from middle class environs but in the case of dropout vs. others from more elite like environs

-The average level of parents' education of the schools has an effect to the division in academic vs. other tracks. It has also an effect via the grades.

The results mean that the social differentiation inside Finnish compulsory schools has increased and there is a social pressure to resolve it into some kind of differentiation between schools. At the same time the possibilities of the youngsters after compulsory school are more equal than before.

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THE TRAINING OF SCHOOL LEAVERS: COMPLEMENTARITY OR SUBSTITUTION?

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Abstract

In a recent article by Groot (1993) the question of complementarity or substitutability between different forms of human capital is raised. If initial education and industrial training are substitutes, overeducated workers will participate less in additional training than workers who are correctly educated. It could explain the persistence of overeducation and implies that the social wastage of overeducation will be less. On the other hand, if initial education and industrial training are complements, existing differences in human capital will only increase by industrial training, implying the risk for some workers "missing the boat". Supplementary to Groot we not only look at the impact of over- and undereducation (level) but also to non-matching fields of studies and to the "narrowness" of types of education. A sample of labour market entrants was used, so we did not have to cope with the disturbing influence of other forms of human capital: life and labour market experience. The paper gives evidence in support of the substitutability between initial education and industrial training.

Résumé

La formation des jeunes sortant du système scolaire

Dans un article récent, Groot (1993) soulève la question de la complémentarité ou de la substituabilité entre différentes formes de capital humain. Si la formation initiale et la formation industrielle sont substituables l'une à l'autre, les salariés surqualifiés participeront moins à la formation continue que les salariés qui ont reçu le niveau de formation "convenable". Ceci permettrait de rendre compte de la persistance du phénomène de surqualification et tendrait à prouver que le gaspillage social lié à la surqualification serait moindre qu'on ne le dit généralement. Inversement, si la formation initiale et la formation industrielle sont complémentaires, les différences existantes en termes de capital humain ne feront que s'aggraver avec la formation industrielle, et il y aura des laissés pour compte. Prolongeant les travaux de Groot, nous ne considérons pas seulement l'impact de la sous ou sur-qualification en terme de niveau scolaire, mais aussi la non adéquation des types d'études poursuivies et le caractère plus ou moins spécialisé des formations reçues. Notre étude repose sur un échantillon de nouveaux entrants sur le marché du travail afin que d'autres formes de capital humain, telles que l'expérience sur le marché du travail, n'entrent pas en ligne de compte. Notre contribution apporte des éléments en faveur de la substituabilité entre formation initiale et formation industrielle.

1. INTRODUCTION

People spend a quarter of their lives at school, but learning doesn't stop when they leave. For both organisations and individuals, "permanent education" is gradually becoming the normal state of affairs. In some cases, work itself offers plenty of opportunities to learn, and in other cases training is given outside the immediate working environment. This training can have various functions, ranging from complete retraining (e.g. as a result of occupational mobility), through further training because skills have become obsolete, to training to help an employee master a new function. The last of these is particularly important for newcomers to the labour market. An analysis of the training which accompanies the entry of school-leavers to the labour market will highlight the match between the skills which are demanded in the labour market and the skills which are acquired during initial education. This will have implications for the question of what skills should be, or should not be, incorporated in initial education.

This article focuses first of all on the determinants of training participation of labour market entrants: what determines the probability that a school-leaver will receive training after leaving initial education? Are initial differences in human capital investments reduced or actually increased by further training? And is the main function of training to compensate for deficiencies in initial education (substitution), or does it in fact build on the skills acquired in the education system (complements)?

This article examines the determinants of training for Dutch school-leavers from Junior Secondary Vocational Education (VBO), Short Senior Secondary Vocational Education (KMBO), Senior Secondary Vocational Education (MBO) and General Secondary Education (AVO)[1]. We look at one particular form of training e.g. industrial training, including both *external courses* and *in-company training*, but excluding informal on-the-job training and also excluding apprenticeship training.

2. THEORETICAL FRAMEWORK

When analysing the determinants of training, it is important to distinguish between two important functions of training. First, training can be considered as an investment in human capital, sometimes building on the skills which have already been acquired during initial education. Second, training can have a function in bridging any gaps which may exist between the skills which are demanded and those which employees possess. In theoretical terms, these functions correspond to two theoretical approaches, which overlap to some extent: the *human capital theory* and the *matching theory*. The theories can be said to overlap because training to supplement skills may also have the character of an investment. Nevertheless, the two theories model two different ways of looking at training.

The central principle of the *human capital theory* is that the skills which are acquired in training represent human capital, which is valued by employers because it leads to higher productivity. This higher productivity will be manifest in higher wages (Becker, 1975). This also shows that education and training are investments. Relevant short-

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[1] See Appendix 1 for a description of the Dutch Educational System.

term expenditure can generate a "cash flow" in the long term. As with other investment plans, it is possible to carry out cost-benefit analyses, for example the internal rate of return (Psacharopoulos, 1987).

Employers will train their workers if the expected rate of return from the investment in training is higher than the alternative rate of return for investments with a similar risk (for example, the market interest). Of course, the expected rate of return on training is dependent on the training costs, but also on the investment horizon, the increase in productivity and the increase in wage costs. *Employees* can also decide to invest in training, and according to the human capital theory they will do so if the expected rate of return on the investment is higher than the alternative rate of return with an equal risk. The balance of the benefits (in higher wages) and training costs over the whole investment period produces an internal rate of return which is compared with an alternative rate of return.

One significant factor in determining the costs of training, for both individuals and employers, is the time needed to acquire new skills. Therefore the costs of training will be lower for individuals with a greater learning ability, as indicated by the educational level they have attained. When general human capital enhances the ability and reduces the costs to acquire specific human capital, formal education and industrial training can be considered as complements. The ratio between the costs and benefits of training is thus more favourable for those with higher education than for those with lower-level education, so that a higher educational level will increase the probability of industrial training[2]. Another important factor in determining the costs of training is the organisation size. Extensive empirical research has shown that large organisations train their personnel much more intensively than small organisations (CBS, 1995; Fracis et al., 1995; Green, 1993). This may be partly due to economies of scale when purchasing or providing training. In the case of in-company training, the fixed costs of training (for example the management and the premises for a training department) can be spread over a large number of employees, and in the case of out-company training it will be possible to obtain a discount for quantity. In addition, the "pooling" of the training risks in larger organisations will produce a lower risk on the total investment[3]. Therefore larger organisations will have a higher probability of employees participating in industrial training.

The investment horizon is particularly important in determining the expected returns on the investment. For a given level of training costs, and given training benefits per period (change in productivity minus change in wages), the shorter the (expected) investment horizon is, the lower the net present value and internal rate of return on the investment will be. An employer will therefore be less likely to train part-time employees, since the training will be utilised and made to pay over fewer future working hours, and will also be less likely to train employees with a temporary contract, because of the higher risk that such employees will leave. Not the actual investment horizon, but rather the subjectively *expected* investment horizon

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[2] An alternative explanation of the relation between level of education and training participation rate is that higher qualified people enter more complex jobs which need more additional training.

[3] Ritzen (1991) makes a similar point, by suggesting that the inability of individuals to "pool" their training risk leads to under-investment in general training.

determines the training investments. Employers who expect women to withdraw from the labour market will calculate a lower expected internal rate of return for women (see also Groot et *al.*, 1988). This expectation is based on the average labour market behaviour of women (Green, 1993). This can lead an employer to be less ready to invest in training for women, so their probability of getting trained will be reduced.

In the analysis above, training has been considered mainly as a form of investment in human capital. But training can also, and simultaneously, serve the function of bridging differences between an individual's skills and the skills which are required. This aspect of training is most explicitly discussed in the *matching theory* and clearly refers to substitution between initial education and industrial training. According to this theory, a mismatch between the required skills and the skills a worker actually possesses has important consequences for productivity, wages, the probability of an employee leaving, and so forth. Variations in the quality of the match (by level and field of study) will therefore lead to differences in the need for additional training (Barron et *al.*, 1989). If the educational *level* which is required for a particular job is lower than the educational level of the person holding that job, this is known as overeducation, and if the educational level required for the job is higher than the educational level of the worker concerned, this is termed undereducation. According to matching theory, undereducation will lead to a greater need for further training, while overeducation means that there is less need for training.

In addition to the effect of the educational level of a worker, the match between the employee's *field of education* and the field of education which is required for the job is also relevant. According to matching theory, if the field of the employee's education corresponds to the field which is required, the need for further training in the form of industrial training will be less, and *vice versa*.

Types of education also vary in the scope of the occupational field for which they prepare (De Grip and Heijke, 1989). Some types of education prepare students for a narrow occupational domain (for example, Senior Secondary Vocational Education for pharmacy assistants), while others prepare for a broad occupational field (for example, Senior Secondary Vocational Education in mechanical engineering). If school-leavers from a "narrow" type of education find work in their own field, the need for supplementary training will presumably be less than for people with a "broad" education working in their own field. However, if school-leavers from a "narrow" type of education find employment outside the field in which they studied, the need for training (i.e., retraining) will be even higher.

3. DATA

The data which have been used to answer the research questions come from the annual RUBS (Registratie Uitstroom en Bestemming Schoolverlaters) survey which records the flows of school-leavers and their destinations in the labour market. The RUBS survey gives a representative nation-wide picture of young people leaving General Secondary Education, Junior Secondary Vocational Education, Short Senior

Secondary Vocational Education or Senior Secondary Vocational Education. The survey is held approximately one year after leaving school[4].

The data used for this analysis come from the 1994 survey which records the 1992/93 school-leavers cohort. The present analysis is based on a sub-sample consisting of school-leavers who obtained a certificate, who had paid work for at least 12 hours per week at the time of the survey, were not self-employed or working in a business belonging to their parents or partner and were also not participating in full-time further education. Those who did not satisfy these conditions or who had missing values on the variables which were used for the analysis were excluded. This resulted in a sub-sample of 2 985 cases who had studied in 79 different courses.

The indicator of participation in industrial training is the question whether the school-leavers were participating in a course or in-company training at the time of the survey (i.e. in May/June 1994). It excludes hobby courses, informal on-the-job training and apprenticeship training.

The following variables have been selected as determinants of the probability of training: gender, ethnic background, educational level, width of education, region in which respondents are employed, size of the organisation, branch[5], part-time work[6], overeducation or undereducation[7] and the field of study required for the job[8].

The width of the respondent's initial education has been operationalized as follows (see also appendix 2). For each of the 79 different fields of study, a Gini-Hirschman coefficient (Sheldon, 1985) was calculated for the dispersion of people with that type of education across the economic subsectors and occupational groups. This coefficient is a continuous variable ranging from 0 (if every school-leaver finds employment in the same economic sub-sector, or in the same occupational group) to 1 (if school-leavers are evenly dispersed over all economic sub-sectors or occupational groups, respectively). The width of each type of education is determined as the average of the dispersion across economic sub-sectors and the occupational dispersion (the correlation between these two is 0.79).

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[4] For a more detailed description of the RUBS survey, see Van Smoorenburg and Van der Velden (1995) and Van Smoorenburg et al. (1995).

[5] Classified using standard industrial classification (SBI) employed by Statistics Netherlands.

[6] Defined as contractual employment for 34 or less hours per week.

[7] The school-leavers were asked what educational level was required for their job. This required educational level is compared to the level of the education which they have completed. The various types of education are divided into the following levels: 1) Primary Education 2) Junior Secondary Vocational Education/Junior General Secondary Education 3) Short Senior Secondary Vocational Education 4) Senior Secondary Vocational Education/Senior General Secondary Education/Pre-University Education 5) Higher Vocational Education or higher.

[8] This match is determined directly, by asking the respondents whether the required education for their job is in the field in which they studied, in another field, or in no particular field.

4. RESULTS

What are the most important determinants of training? To answer this question, a logistic regression equation has been estimated, for the probability of participation in industrial training. The results are shown in Table 1. For the averages and standard deviations of all the variables used, see Appendix 3.

Some of the variables which are included in the estimation model have already been discussed in Section 2. These include personal, educational and organisational characteristics, like gender, educational level, the width of initial education and the size of the organisation. The model also incorporates a number of control variables (ethnic background, economic sector and the region in which the respondent is employed) which have not been explicitly considered in the theoretical framework.

The hypothesis that a higher educational level increases the probability of training, is clearly confirmed by our model. The result as regards industrial training is in line with other empirical studies, which also point to a positive relationship between the educational level of employees and participation in training (see for example OECD, 1991; Allaart et al., 1991).

The positive relation between organisation size and participation in industrial training, is also confirmed in this analysis, although the differences between small and large organisations are not as large as those found for the whole labour force (CBS, 1995). In very large firms (500 employees or more), school-leavers participate in industrial training significantly more often than in organisations with 10 to 50 employees (the reference group), while in very small organisations (1 to 10 employees) there is a significantly lower probability of participation in industrial training, although the latter coefficient is not significant at $p<5\%$.

Table 1
**Estimation results for the probability
of participation in industrial training (*Logit*)**

	Industrial training	
	regression coefficient	standard error
Female	-0.14	0.11
Ethnic minority	-0.48	0.38
VBO/MAVO	-0.54*	0.26
KMBO	-0.74**	0.24
MBO/HAVO/VWO	ref.	ref.
Width of initial education	1.09**	0.34
1 - 9 employees	-0.26	0.14
10 - 49 employees	ref.	ref.
50 - 499 employees	0.05	0.13
500 or more employees	0.39**	0.13
Northern Netherlands	0.06	0.14
Eastern Netherlands	-0.16	0.13
Western Netherlands	ref.	ref.
Southern Netherlands	-0.12	0.12
Agriculture and fisheries	0.70	0.41
Industry and mining	ref.	ref.
Construction	0.29	0.24
Commerce, hotel and catering	0.39*	0.17
Transport and communication	0.27	0.27
Commercial services	0.88**	0.19
Other services	0.03	0.18
Overeducation	-0.26*	0.11
Matching level	ref.	ref.
Undereducation	1.03**	0.34
Own field of study	ref.	ref.
Different field	-0.12	0.20
No particular field	-0.12	0.11
Permanent contract	0.17	0.10
Part-time job	-0.09	0.11
Apprenticeship	-2.14**	0.28
Constant	-1.92**	0.34
Number of cases	2.985	
-2 log Likelihood	2.843	

*: $p < 5\%$;   **: $p < 1\%$

The impact of the benefit-side of the investment in industrial training could not be confirmed by our data of school-leavers. Derived from the human capital theory, we formulated the hypothesis that employees working under part-time contracts are less likely to participate in industrial training, since the "life-time" benefits of the new qualifications will be less for such employees. This hypothesis was not confirmed by the estimation results. While the sign of the regression coefficient is negative, its value is very small and not significantly different from zero (see Table 1). The hypothesis, that employees with a permanent contract are more likely to participate in industrial training, was also not confirmed by the analysis. Although school-leavers with a permanent employment contract are more likely to participate in industrial training than school-leavers with a temporary employment contract, the difference is not significant. Women are somewhat less likely to participate in training than men, but here the difference is also not significant. Maybe the relatively modest investment costs for the employer implicate that the expected investment horizon is shorter than the time an employee is expected to remain with the organisation. While the sign of the regression coefficient is three times correct, the value is too small to be statistically significant.

In outlining the theoretical framework, a number of hypotheses relating to the function of training in bridging differences between an individual's skills and the skills which are required were formulated. Someone who has completed a course at a higher educational level than is required for the job (overeducation) will be less likely to participate in industrial training, while undereducation will result in a higher probability. The results in Table 1 show that undereducation and overeducation do indeed have the expected effects on the participation rate of industrial training. Overeducation results in a significantly lower probability of this kind of training, and undereducation in a significantly higher probability. This result is in accordance with Sicherman's findings (1991).

Remarkably, the hypothesis that school-leavers who are working within the field in which they studied would have less need for further training than school-leavers who find work in a field other than that in which they studied, was not confirmed (table 1). This is certainly not in line with the assumption that school-leavers who work within the field in which they have studied would have less need for additional training as compared with people who are working outside the field in which they studied. This is all the more surprising as the model controls for the effects of educational level. We therefore have to conclude that industrial training not only serves to bridge any gaps there may be in individuals' skills, but also has a function in further specialisation. Thus a school-leaver who has a job in the field in which he or she is trained may need somewhat less *job-oriented* training, but will on the other hand undertake more *career training*. The net effect is that one's field of education has no significant effect on the probability of participation in industrial training.

Table 2
Estimation results of the probability of participation
in industrial training (*Logit*) in the baseline model

separately for school-leavers working in a job for which training in their own field, another field, and no particular field, respectively, is required (regression coefficients with standard errors in brackets)

	Baseline model	Own field	Another field	No particular field required
Width of initial education	1.09**	0.85	-2.12	1.94**
	(0.34)	(0.46)	(1.18)	(0.62)
Level:				
Overeducation	-0.26*	-0.15	-0.25	-0.36*
	(0.11)	(0.16)	(0.55)	(0.17)
Matching level	ref.gr	ref.gr	ref.gr	ref.gr
Undereducation	1.03**	1.29**	0.06	0.84
	(0.34)	(0.49)	(1.19)	(0.60)
Field:				
Own field required	ref.gr	.	.	.
Other field required	-0.12	.	.	.
	(0.20)			
No particular field required	-0.12	.	.	.
	(0.11)			
Other determinants	x	x	x	x
Number of cases	2985	1562	176	1247
-2 Log Likelihood	2843	1512	144	1121

*: p<5%;   **: p<1%;   . : not incorporated in model
x: gender, ethnic background, educational level, organisation size, region, economic sector, permanent contract, part-time work, apprenticeship, constant (for results see appendix 4)

It is quite possible that the effects of undereducation and overeducation will differ between people who are working in their own field and those working outside the field in which they trained. Table 2 therefore shows separate estimates of the probability of participation in industrial training for school-leavers who work in a job for which training in their own field, another field, and no particular field, respectively, is required. The results show that the effect of overeducation in only significant for those working in a job for which no particular field of education was required. On the other hand, the effect of undereducation is only significant for those working within their field of education. The four remaining coefficients have the expected sign, but are not significantly different from zero.

The lower probability of industrial training for overeducated school-leavers and the higher probability of industrial training for undereducated school-leavers is not necessarily due to respectively a surplus or a deficit of skills. There might be two other reasons: a non-random quit rate and/or a non-random learning ability.

Hersch (1991) gives evidence in support of the intuitive notion that overeducated workers are less satisfied with their jobs and are more likely to quit. The lesser training probability of overeducated school-leavers - compared to school-leavers with the same educational attainment but with a job at a matching level - could therefore be due to a higher quit intention. A higher quit intention leads to a shorter investment horizon, so it will be less attractive to invest in industrial training. Therefore we also estimated a model in which we controlled for the quit intention of school-leavers[9]. The regression coefficient of the variable *quit intention* is only -0.02 - with a standard error of 0.12 -, so it is certainly not statistically significant. Moreover, adding this extra control variable has no impact on the regression coefficients of over - or undereducation. So, overeducated school-leavers do not have a lower chance of being trained *because* they are bound to leave the company earlier, while undereducated school-leavers do not have a higher chance of being trained *because* they are more likely to stay.

Secondly, suppose that there is an unobserved variable *learning ability* which both influences the probability of industrial training and the probability of being overeducated. School-leavers who have to step aside to a job under their educational attainment might have less learning ability compared to school-leavers with the same educational attainment who find a job at a matching level. This would result in the human capital argument that school-leavers with less learning ability will need more time to acquire new skills, so the training costs will be higher and the probability of training will be lower. In that case the explanation for a negative effect of overeducation on the likelihood of industrial training is not the lesser need for training because of the surplus of skills, but the lesser ability of overeducated school-leavers. To test the validity of this alternative explanation an ordered *Probit* model of being over - or undereducated was estimated (Maddala, 1983; see appendix 5). The residual ε_1 will capture the influence of unobserved variables on the chance of being over - or undereducated, while residual ε_2 captures the influence of unobserved variables on the chance of being trained. A correlation between ε_1 and ε_2 is an indication of the existence of an unobserved variable that both influences the probability of over - or undereducation and the probability of industrial training. However, the result of this analysis shows that the correlation between ε_1 and ε_2 is almost zero ($-8{,}89*10^{-10}$). The explanation that overeducated school-leavers have a lower likelihood of industrial training because of their surplus of skills is therefore not falsified by the data.

The narrower a person's initial education has been, the smaller the probability of participation in industrial training (see Table 1). Apparently the need for additional training is smallest if the initial education is already specifically focused on particular economic sub-sectors or occupational groups. From the matching theory, we derived that school-leavers coming from a "narrow" type of education (i.e., a type of

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[9] They were asked if they were searching for another job in the last four weeks.

education focused on a few occupations or a few economic sub-sectors) and who find work in their *own* field would be less likely to participate in industrial training than a comparable group with a "broad" education. On the other hand, if they find work in a *different* field to that in which they were educated they would be more likely to participate in industrial training. Indeed we find a positive relationship between the width of the initial education and the probability of participation in industrial training for school-leavers who are working in their own field, but a negative relationship for those school-leavers who are working in a job for which education in some other field is required (see Table 2). Both coefficients are not significant at p<5% but are statistically significant at p<10%. Moreover the difference in coefficients is significant (t=2,34). Thus those with a broader education need less retraining if they shift to an alternative segment of the labour market than people who have followed a "narrow" type of education, since their broader qualifications can be utilised in more segments of the labour market. On the other hand, those who have been trained for a narrow occupational domain have a training advantage over people with broad education, as long as they can find a job for which that narrow training is required.

5. SUMMARY AND CONCLUSIONS

Several hypotheses were formulated on the basis of the human capital theory and the matching theory. The most important findings can be summarised as follows:
1) As expected, a higher educational level results in a higher probability of participation in industrial training. Also the probability of participation in industrial training being higher in large organisations is confirmed.
2) Contrary to expectations, part-timers as well as women are not significantly less likely to participate in industrial training than full-timers and men respectively. School-leavers with a permanent employment contract did not have a significantly higher probability of participation in industrial training.
3) As expected, overeducation results in a lower probability of participation in industrial training, and undereducation leads to a higher participation rate.
4) Contrary to expectations, school-leavers working outside the field in which they studied are no more likely to participate in industrial training than school-leavers working within the field in which they were initially educated.
5) As expected, school-leavers from a "narrow" type of education (i.e., a type of education focused on one, or only a few, occupational groups and economic sub-sectors) who work in their own field are less likely to participate in industrial training than school-leavers from broader types of education who are working in their own fields. However, when school-leavers from a narrow type of education are employed in functions for which education in some other field is required, the reverse is true. Both results are in accordance with expectations.

As regards the determinants of industrial training of labour market entrants, we have to conclude that these confirm the expectations related to the *costs* of industrial training (for example, the effects of educational level and the size of the organisation), but that the results do not confirm the expectations with respect to the expected *benefits* of industrial training (i.e., the absence of effects from part-time work and permanent employment contract). This is in accordance with findings from a recent case study of the costs and benefits of industrial training (Van Smoorenburg and Heijke, 1995). The latter study showed that firms do have a clear picture of the costs

of industrial training, but no more than very general indications of the benefits of such training, although they are certainly convinced that there are some benefits. The benefit side of industrial training is in fact largely characterised by immeasurability and uncertainty about the increase in productivity of employees as a result of the training, and how long the organisation will benefit from this increase in productivity.

Initial education and industrial training can be seen as substitutes. The results of this study do indicate that training not only has a function of investment in human capital, but also serves a function in bridging discrepancies between the skills possessed by the school-leavers and the skills demanded on the labour market. In the first place, it appears that school-leavers who are working in jobs which are below their educational level are trained less. This is an important finding, because as many as one in three of all working school-leavers are over-educated for the jobs they have. Apparently there is an economic rationale for employers' recruiting people who are too highly educated for the job at hand: it reduces training costs. The supplementary character of industrial training can also be seen in the case of school-leavers who find a job at a level higher than that for which they have been trained. Such a situation of formal undereducation does in fact result in a greater need to participate in industrial training.

Another indication that industrial training can compensate for deficiencies in initial education can be seen from the effects of the "width" of individuals' initial education. Having followed a "narrow" type of education results in less need for supplementary training than having followed a "broad" type of education. However this effect only holds for those who find work in the field in which they were trained. The reverse is true for those who have switched to an alternative segment of the labour market. Thus training is a compensation for skill deficiencies especially in the case of those who have completed a "broad" type of education and work in their "own" occupational domain, or for those who completed a "narrow" type of education and hold a job outside their occupational domain.

Remarkably, school-leavers who work in the field in which they were educated are not less likely to be trained than school-leavers who find work in a field other than that in which they were educated. This indicates that the function of industrial training is not only to bridge skills gaps but also to provide for further specialisation or extension of skills which have already been acquired. Apparently, where there is an adequate match between the skills which are required and those which have been obtained, another sort of training comes into play: training which is focused on career development in the internal or external labour market.

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Dutch educational system

Like most other European countries, a distinction is made in the Netherlands between general and vocational education. As shown in the diagram of the Dutch educational system, vocational education ("Beroeps Onderwijs") takes place at three educational levels: the level of junior secondary vocational education (VBO), the level of senior secondary vocational education (MBO) and the level of higher education (vocational colleges (HBO) and university (WO)).
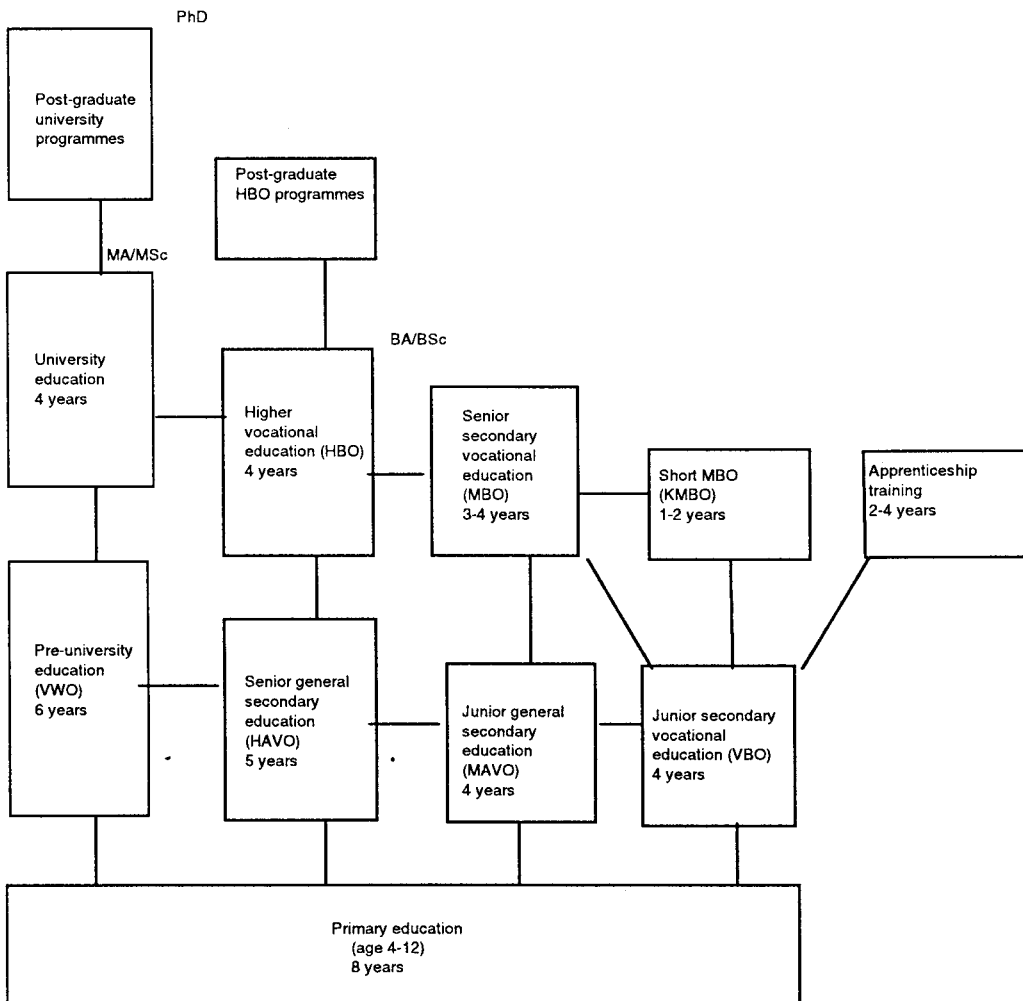
VBO/MAVO = Junior Secondary Vocational Education and Junior General Secondary Education
KMBO = Short Senior Secondary Vocational Education
MBO/HAVO/VWO = Senior Secondary Vocational Education, Senior General Secondary Education, Pre-university Education

One measure of the possibilities of switching occupations offered by a type of education is the Gini-Hirschman coefficient of the occupational dispersion of workers with that education, GH_i^{occ} (see Sheldon, 1985):

$$GH_i^{occ} = \left(1 - \sum_o p_{io}^2\right)\frac{N_o}{N_o - 1}$$

In which:

p_{io} = proportion of workers with education i who work in occupation o

N_o = number of occupations.

This factor can range between 0 and 1. If the GH^{occ} coefficient is 1, workers with that education are equally spread over all occupations, and if the GH^{occ} is 0, workers with that education are found in only one occupation. Thus, the higher the value of the GH^{occ} coefficient, the greater the possibilities available to workers with that education to switch occupations.

Types of education can also differ in the amount of economic sub-sectors they serve:

$$GH_i^{sec} = \left(1 - \sum_s p_{is}^2\right)\frac{N_s}{N_s - 1}$$

In which:

p_{is} = proportion of workers with education i who work in economic sub-sector

N_s = number of economic sub-sectors.

Because of a high correlation between GH^{occ} and GH^{sec} (0.79) and to incorporate both elements, we defined the *width* of each type of education as follows:

$$width_i = 0.5 * GH_i^{occ} + 0.5 * GH_i^{sec}$$

Appendix 3

Averages and standard deviations for all variables

	Unweighted plus listwise deletion of missing values (for estimates)		Weighted plus pairwise deletion of missing values (for description)	
	average	standard deviation	average	standard deviation
Female	0.71	0.45	0.60	0.49
Ethnic minority	0.02	0.13	0.02	0.13
VBO/MAVO	0.10	0.30	0.30	0.46
KMBO	0.07	0.26	0.14	0.35
MBO/HAVO/VWO (ref.)	0.83	0.38	0.56	0.50
Breadth of initial education	0.70	0.15	0.73	0.14
1 - 9 employees	0.21	0.41	0.24	0.43
10 - 49 employees (ref.)	0.26	0.44	0.27	0.44
50 - 499 employees	0.28	0.45	0.26	0.44
500 or more employees	0.25	0.43	0.23	0.42
Northern Netherlands	0.14	0.35	0.14	0.35
Eastern Netherlands	0.18	0.38	0.19	0.39
Western Netherlands (ref.)	0.44	0.50	0.50	0.50
Southern Netherlands	0.24	0.43	0.17	0.37
Agriculture and fisheries	0.02	0.13	0.04	0.19
Industry and mining (ref.)	0.11	0.32	0.13	0.34
Construction	0.07	0.25	0.10	0.31
Commerce, hotel and catering	0.29	0.45	0.32	0.47
Transport and communication	0.04	0.19	0.05	0.21
Commercial services	0.10	0.29	0.08	0.27
Other services	0.38	0.49	0.28	0.45
Overeducation	0.36	0.48	0.33	0.47
Matching level (ref.)	0.61	0.49	0.61	0.49
Undereducation	0.03	0.16	0.06	0.23
Own field (ref.)	0.52	0.50	0.44	0.50
Other field	0.06	0.24	0.06	0.23
No particular field	0.42	0.49	0.51	0.50
Permanent contract	0.64	0.48	0.59	0.49
Part-time job	0.36	0.48	0.44	0.50
Apprenticeship	0.17	0.38	0.29	0.46
Industrial training	0.22	0.41	0.20	0.40

VBO/MAVO = Junior Secondary Vocational Education and Junior General Secondary Education
KMBO = Short Senior Secondary Vocational Education
MBO/HAVO/VWO = Senior Secondary Vocational Education, Senior General Secondary Education, Pre-university Education

Appendix 4

Estimation results of the probability of participation in industrial training in the basic model

separately for school-leavers working in a job for which training in their own field, another field, and no particular field, respectively, is required (regression coefficients with standard errors in brackets)

	Basic model		Own field		Another field		no particular field required	
Female	-0.14	(0.11)	-0.15	(0.16)	-1.08*	(0.49)	0.04	(0.18)
Ethnic minority	-0.48	(0.38)	-0.39	(0.44)	#	#	-0.49	(0.79)
VBO/MAVO	-0.54*	(0.26)	-0.32	(0.55)	2.11	(1.33)	-0.73*	(0.32)
KMBO	-0.74**	(0.24)	-0.25	(0.36)	#	#	-0.89**	(0.33)
MBO/HAVO/VWO	ref. ref.	ref.	ref.	ref.	ref.	ref.	ref.	
1-9 employees	-0.26	(0.14)	-0.42*	(0.18)	-0.15	(0.76)	-0.04	(0.23)
10-49 employees	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
50-499 employees	0.05	(0.13)	-0.03	(0.17)	1.54*	(0.67)	0.09	(0.22)
500 or more employees	0.39**	(0.13)	0.20	(0.19)	1.58*	(0.63)	0.54**	(0.21)
Northern Netherlands	0.06	(0.14)	0.05	(0.20)	1.43*	(0.69)	-0.14	(0.22)
Eastern Netherlands	-0.16	(0.13)	-0.11	(0.18)	0.50	(0.63)	-0.32	(0.23)
Western Netherlands	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Southern Netherlands	-0.12	(0.12)	0.07	(0.17)	-0.17	(0.55)	-0.39*	(0.20)
Agriculture and fisheries	0.70	(0.41)	1.15*	(0.59)	#	#	0.35	(0.61)
Industry and mining	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Construction	0.29	(0.24)	0.58	(0.31)	-0.56	(1.36)	-0.13	(0.46)
Commerce and hotel and cat.	0.39*	(0.17)	0.61*	(0.25)	1.75*	(0.91)	0.01	(0.25)
Transport and Communication	0.27	(0.27)	0.18	(0.39)	1.16	(1.45)	0.36	(0.39)
Commercial services	0.88**	(0.19)	0.81**	(0.28)	2.96**	(1.00)	0.71*	(0.30)
Other services	0.03	(0.18)	-0.07	(0.26)	1.80*	(0.91)	0.12	(0.28)
Permanent contract	0.17	(0.10)	0.10	(0.15)	1.06*	(0.52)	0.29*	(0.16)
Part-time work	-0.09	(0.11)	-0.14	(0.16)	0.35	(0.55)	0.04	(0.18)
Apprenticeship	-2.14**	(0.28)	-2.84**	(0.53)	-1.87*	(1.08)	-2.23**	(0.42)
Constant	-1.92**	(0.34)	-1.70**	(0.46)	-2.49*	(1.22)	-2.63**	(0.60)
Other determinants	x		x		x		x	
Number of cases	2985		1562		176		1247	
-2 Log Likelihood	2843		1512		144		1121	

*: $p<5\%$;   **: $p<1\%$;   #: number of cases zero; dummy therefore not incorporated in model
x: width of initial education, required educational level, required field of study (see Table 2 in the main text)

Estimation results of an ordered *Probit* model of the probability
of having a job with a higher required educational level
than the educational attainment of the school-leaver[10]

	Required educational level vs. educational attainment	
	regression coefficients	standard errors
Female	-0.01	0.06
Ethnic minority	0.07	0.18
VBO/MAVO	1.67**	0.10
KMBO	0.28**	0.09
MBO	ref.	ref.
Width of initial education	0.77**	0.17
1-9 employees	-0.08	0.07
10-49 employees	ref.	ref.
50-499 employees	0.02	0.06
500 or more employees	-0.01	0.07
Northern Netherlands	-0.14	0.07
Eastern Netherlands	-0.17**	0.07
Western Netherlands	ref.	ref.
Southern Netherlands	-0.07	0.06
Agriculture and fisheries	-0.59**	0.20
Industry and mining	ref.	ref.
Construction	-0.16	0.12
Commerce, hotel and catering	-0.19*	0.08
Transport and communication	0.13	0.14
Commercial services	0.63**	0.11
Other services	-0.09	0.09
Own field	ref.	ref.
Other field	-0.13	0.10
No particular field	-0.88**	0.05
Permanent contract	-0.02	0.05
Part-time work	-0.00	0.05
Apprenticeship	-0.29**	0.07
Constant	0.28	0.16
Interval boundary	2.74**	0.07
Number of cases	2.985	
Log Likelihood	-1.943	

*: $p < 5\%$,   **: $p < 1\%$

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[10] Overeducation = 1, matching level = 2, undereducation = 3.

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SKILLS AS HUMAN CAPITAL IN YOUTH TRANSITIONS
A LISREL MODEL OF ORIGINS AND EFFECTS

John Bynner

Abstract

Using empirical data from the 1970 British Cohort Study (BCS), based on a sample of 17 000 people born in a single week in April 1970 (BCS70), this paper addresses the following issue: what are the basic elements of human capital that assist the process of transition to employment and how do young people acquire them? Two conflicting views are presented and tested: Human Capital Theory and Social Exclusion Theory. The paper examines the role of both type of skills in occupational preparation: the basic skills and the more directly employment based work-related skills. The results underline the importance of the primary school years as the key period for the acquisition of the basic skills and the role of basic skills as key factors in employment. This strengthens the position of social exclusion theorists who question the centrality of work-related skills in the policies and the practices prevailing in preventing youth unemployment. However, successful functioning within employment and progress via promotion to higher levels of work, are likely to be affected crucially by the possession of these work-related skills.

Résumé

La compétence comme facteur du capital humain et l'insertion professionnelle des jeunes

En s'appuyant sur les données de l'enquête longitudinale sur les jeunes britanniques nés en avril 1970 (BCS70), cet article pose la question suivante : quelles sont les composantes du capital humain nécessaires à l'insertion professionnelle des jeunes et quel en est le mode d'acquisition ? Deux grandes théories sont renvoyées dos à dos : la théorie du capital humain et la théorie de l'exclusion sociale. L'article examine le rôle respectif des connaissances générales et des compétences professionnelles au sens le plus étroit du terme. L'importance des premières années scolaires dans l'acquisition ultérieure de la formation générale et le rôle prépondérant de cette dernière pour l'accès à l'emploi sont mis en évidence. Ces résultats viennent appuyer la thèse de l'exclusion sociale qui tend à minorer l'importance des compétences proprement professionnelles dans l'accès à l'emploi. En revanche, le rôle de ces dernières dans l'aptitude à réussir dans l'emploi et à obtenir ultérieurement des promotions apparaît clairement.

1. INTRODUCTION

Human capital describes those individual characteristics acquired principally through the education system that are central to giving young people access to continuing and rewarding employment. It comprises personal qualities and competencies, that will attract potential employers generally, and provide the particular skills that lead to employment in different kinds of job. This article addresses first of these two issues: what are the basic elements of human capital that assist the process of transition to employment, and how do young people acquire them?

Employment opportunities are the product of a combination of factors, part structural and part personal. High levels of unemployment in areas of declining industry reduce job and training opportunities for school leavers (Ashton and Lowe, 1991; Banks et al., 1992; Coleman, 1993). But at the same time an ever-higher premium is placed by employers on the personal qualities of job applicants, especially those embodied in the qualifications they possess. There are two conflicting views about the value of these attainments. Human Capital theory maintains that employers value them, because of the investment in education and training that they represent, and because vocational skills relate directly to the work itself (Becker, 1975; Erikson and Goldthorpe, 1992). Social Exclusion theory, on the other hand, suggests almost the opposite. Employers are not really much interested in the skills acquired through the education system; their interest lies in the selectivity that high levels of certification indicate on the part of job applicants (Collins, 1979). In other words, employers can use certification to select applicants who have what they view as the right social and personal qualities, so the social structure comprising privileged (middle class) versus underprivileged (working class) reproduces itself.

As with all such competing positions, the best path lies somewhere in between them (Brown, 1995). Certain *basic* skills acquired through education - most obviously, literacy and numeracy skills, but increasingly keyboard and computer skills as well - are fundamental to activity in almost any sphere of modern society, especially employment, as are such "higher level" interpersonal skills, as ability to work in a team, flexibility and adaptability. Some of these are part of an individual's "cultural capital" acquired in the family, but the education system can make an important contribution to them. Therefore, individuals lacking such skills, or a poor awareness of their importance, are likely to find most difficulty in getting employment and retaining it. Young men in this situation tend to drift in and out of casual, unskilled jobs and unemployment; young women frequently exit from the labour market altogether, often to have children. In the survey to which this paper relates, women at the age of 21 with poor literacy skills were five times as likely to have had two or more children than were those whose literacy skills were "average" (Ekinsmyth and Bynner, 1994). This underlines the point made by Super (1980) that work and non-work roles continually interact in the formation of career patterns. In the case of young women, however, one role - that of mother - can effectively block out, at least temporarily, the role of employee or paid worker.

With respect to the wide range of more directly work-related skills, which schools and vocational training institutions try to instil in young people, there is more uncertainty about their direct value. In research relating such skills to different kinds of

occupation, it was difficult to see any clear patterns, other than the fact that people in the highest level occupations tended to have a lot of skills and people in the low level occupations, many fewer (Bynner, 1994a). Also the skills differentiated men and women. Men claimed to be good at practical skills (use of tools, using plans, constructing things), computational skills (computing, calculating, finance) and organising skills (supervising and managing). Women claimed to be good at verbal skills, (writing, speaking), keyboard skills, and interpersonal skills (teaching, advising/ counselling, caring for other people). Only "selling" skills failed to differentiate the sexes.

But these were self-reported skills. It seems that to a certain extent they represented features of personal identity, almost as much as what was being demanded of them from jobs. On the other hand, the more work-related training people had, and the more experience of employment, the higher the levels of these work related skills. In other words, such skills appear to be a product both of what people bring with them from education into employment, and what they acquire through the experience of employment itself. It was also the case that the higher the overall level of skills, the less the amount of unemployment experienced since leaving school and the higher the overall level of positive affect or self-esteem. In other words having the skills, or at least believing that one possessed them, seemed to provide a degree of protection against unemployment and its damaging effects on personal identity (Bynner, 1996).

It is useful to set these features of occupational skills in the context of the shaping of identity more generally. In Marcia's terms, building on Erikson's ideas, over the period of adolescence, individuals move through the phases of identity diffusion, foreclosure moratorium and attainment (Erikson, 1956; Marcia, 1966; see Knoff, 1987 for a comparative review). The labour market, and specific occupations within it, set particular limits on what constitutes employability. At the same time, the young person develops a sense of having or not having the skills demanded of particular occupational roles (e.g., Savickas, 1985; Newman and Newman, 1988; Nurmi et al., 1994; Blustein et al., 1989). Poorly developed basic skills may be seen as impeding the whole process of occupational identity formation in the sense that aspirations are continually thwarted. Finally, the diffused state gives way to forms of commitment to limited occupational possibilities, including unskilled work and casual employment. The young man will typically present himself as some kind labourer or odd-job man on the margins of the building trades; the young woman will present herself as a child care worker.

This article, examines the role of both types of skills in occupational preparation - the *basic skills* and the more directly employment based *work-related skills*. What direct value can we establish for the basic skills in relation to the acquisition of work-related skills? How important are both kinds of skills in helping young people both to get employment and to resist unemployment? How is their presence or absence manifested in occupational identity. Moreover, what is it in an individual's life that underpins acquisition of the basic skills, and what tends to work against acquiring them? In a series of studies, using data from large scale longitudinal investigation, we have analysed these antecedents of basic skills difficulties, and their consequences for employment. This article brings together the disparate strands from these studies into a single framework for analysis. We start by describing the measures of basic skills

used in the study and their relations to employment and the work-related skills and to self-esteem. Then, by means of a series of multiple regression analyses, we investigate what factors in early life at school and at home, including family educational support and material circumstances, contribute to the acquisition of basic skills, and how important basic skills vis-à-vis the other more work-related skills are in relation to resistance to unemployment. Finally, in a preliminary modelling exercise, we bring the various regression analyses for male and female unemployment together within a single model testing framework using the Structural Equation modelling program LISREL (Jöreskog and Sörbom, 1979).

2. METHOD

Data

The data come from one of two major British longitudinal studies in which basic skills have been assessed: the 1958 British Birth Cohort Study or National Child Development Study (NCDS) and the 1970 British Birth Cohort Study (BCS70), (Ekinsmyth et al., 1994). The particular study we are concerned with here, BCS70, comprises data collected on a sample of up to 17 000 people born in a single week in April 1970. The cohort has been followed up subsequently at ages 5, 10, 16, and at age 21, when a survey was carried out on a 10 % representative sample, comprising 1 640 cohort members (Bynner, 1994b).

In the BCS70 - 21 year survey, market research interviewers asked respondents about their experiences of training and employment since leaving school. They were also asked if they had any problems with "reading", "writing and spelling" and "number work". Half an hour of the interview was devoted to tests of "functional literacy" and "functional numeracy". These tests, which were drawn up by specialist consultants in accordance with British Basic Skills Agency "standards", comprised tasks in everyday life involving literacy and numeracy skills, such as reading instructions, and working out change in a shop (full details are given in Ekinsmyth and Bynner, 1994). Altogether sixteen literacy tasks of this kind were used in the test and fourteen numeracy tasks. Each answer was scored right or wrong and aggregate literacy and numeracy scores were computed. For the purposes of the analysis reported here, the literacy scores and the numeracy scores were re-scaled to the same standard scale of 0 to 10. In order to separate out those respondents most lacking in basic skills from those most proficient in them, respondents were then classified into three groups with the boundaries representing natural breaks in the distribution of the re-scaled scores and where maximum discrimination between the group's characteristics and the other groups' characteristics was evident. The "low" literacy group was defined by scores in the range 0 to 5.2 (6 % of the total sample), the "medium" group by scores in the range 5.3 to 9.0 (77 %) and the "top" group by scores in the range 9.1 to 10 (17 %). The comparable grouping for numeracy was "low", 0 to 3.6 (18 %); "medium", 3.7 to 7.9 (66 %) and "high", (16 %).

In addition to the literacy and numeracy tests, and the questions about vocational training and early employment experience, respondents completed a "work-related skills inventory". This comprised 15 skills of various kinds used in employment, for each of which the respondents had to indicate how good they thought they were at

the skill, whether they used it at work, and whether it had improved in the last 10 years. For the purposes of this analysis, the first of these sets of responses was used. For each skill cohort members responded on a scale of: "good at the skill", "fair", "poor" or "do not have the skill". Finally, the cohort members also completed a 24 item "Malaise" inventory tapping psychological (affective) state identified with lack of self-esteem and depression (Rutter et *al.*, 1970).

The 21 year survey data are linked to the complete BCS70 longitudinal database going back to the birth of the 1970 cohort. Accordingly, variables for which measures were obtained earlier on the cohort members' life can be used in an "explanatory model" to explain the "origins" of basic skills performances. In addition, the relationship of the basic skills scores, the work-related skills scores, and other relevant variables for which data were collected in the 21 year survey, to experience of unemployment can also be modelled.

The overall purpose of the analysis of the data was to assess the extent to which variability in outcome variables - "amount of time spent unemployed since leaving school", "amount of time out of the labour market at home" - can be accounted for in terms of basic skills scores, other work-related skills scores and Malaise. The basic skills scores themselves can be accounted for in terms of experiences and circumstances occurring earlier on in the respondents' lives at 16, 10, 5 and birth. The present article reports the results of multiple regression analysis, regressing first the basic skills scores on earlier experience, performances and circumstances, with separate analysis for functional literacy and functional numeracy (analysis A) and second, regressing first, the number of months unemployed, and second the time spent out of the labour market "at home" (women only), since leaving education on the basic skills scores, the work-related skills scores, social class and Malaise (analysis B).

Analysis A was carried out in a number of stages. First the basic skills scores were regressed on background variables at birth, then at birth and 5, then at birth, 5 and 10, then at birth, 5, 10 and 16. Finally the 10 year reading and mathematics scores were regressed on the variables preceding them temporally at ages 5 and at birth, and the 16 year school leaving examination scores were regressed on the variables preceding them at 10, 5 and birth.

Analysis B was carried out in two forms - first for the whole sample and second for just those sample members who had ever experienced unemployment or being "at home" (women only).

The variables used in analysis A are shown in Table 1 and the variables used in analysis B are shown in Table 2.

Finally, Analysis C draws together both the previous analyses in a single Structural Equation model of the antecedents back to birth of unemployment.

Table 1
Explanatory variables involved in the series of multiple regression analyses with literacy and numeracy scores at 21 as dependent variables

Analysis 1	Analysis 2	Analysis 3	Analysis 4
birth	*birth*	*birth*	*birth*
sex	sex	sex	sex
birthweight	birthweight	birthweight	birthweight
family social class	family social class	family social class	family social class
mother's education	mother's education	mother's education	mother's education
	age 5	*age 5*	*age 5*
	cognitive development	cognitive development	cognitive development
	copying designs test	copying designs test	copying designs
	vocabulary	vocabulary	vocabulary
	number of words	number of words	number of words
	read correctly	read correctly	read correctly
	pre-school education	pre-school education	pre-school education
	whether had any	whether had any	whether had any
	mother's education	mother's education	mother's education
	mother's qualifications	mother's qualifications	mother's qualifications
	mother's age of	mother's age of	mother's age of
	leaving education	leaving education	leaving education
	family circumstances	family circumstances	family circumstances
	rented housing (-)	rented housing (-)	rented housing (-)
	poor neighbourhood (-)	poor neighbourhood (-)	poor neighbourhood
	family support	family support	family support
	mother reads to child	mother reads to child	mother reads to child
	TV: hrs watched (-)	TV: hrs watched (-)	TV: hrs watched (-)
		age 10	*age 10*
		educational attainment	educational attainment
		reading score	reading score
		mathematics score	mathematics score
		family circumstances	family circumstances
		rented housing (-)	rented housing (-)
		crowding (-)	crowding (-)
		income	income
		difficulties	difficulties
		school difficulties (-)	school difficulties (-)
		missed school (-)	missed school (-)
		school	school
		school intake ability	school intake ability
		level	level
		streaming	streaming
		class size	class size
		remedial numbers	remedial numbers
		council estate	council estate
		catchment	catchment
		teacher contact	teacher contact
		mother's interest	mother's interest
		father's interest	father's interest
			age 16
			educational attainment
			16 ILEA GCE
			and CSE examination
			score
			family circumstances
			income
			rented housing

* ILEA CGE and CSE examination score: Inner London Education Authority age 16 educational attainment score compiled from General Certificate of Education (GCE) and Certificate of Secondary Education (CSE) grades.

Table 2
Explanatory Variables involved in analysis B

<u>Work-related skills</u>
Verbal skills: writing, speaking
Constructional skills: using tools, making or constructing things, reading plans
Caring skills: caring, advising / counselling, teaching
Keyboard skills: keyboard, computing
Organisational: organising, supervising, selling, finance, calculating

<u>Basic skills</u>
Functional literacy
Functional numeracy

<u>Psychological State</u>
Malaise

As we are working with longitudinal data, temporal sequencing can greatly aid causal inference, in that we can genuinely determine which variables precede others in the young person's life. However, the penalty of using longitudinal data, is loss of sample members, due to attrition, as they get older. A variety of different methods of handling missing data were used, and finally, list-wise deletion was adopted. The variability in the outcome variable which can be accounted for by the best linear combination of explanatory variables in both analyses is indicated by the multiple correlation coefficient squared (R^2). The strength of relationships between the outcome variable and the explanatory variables in the models is given by partial standardised regression (beta) coefficients (with a range of minus 1 to plus 1).

3. RESULTS

The results of the analysis are of three kinds: distribution of basic skills problems (a), bivariate relationships (b and c), modelling basic skills (d).

<u>(a) Basic skills, occupational experience and work-related skills.</u>

Thirteen per cent acknowledged having some kind of literacy or numeracy problem, with marginally more males reporting a problem than females. Writing and spelling were the most frequently reported problems. The picture for the test scores was rather different. The literacy scores were highly skewed towards high scores: i.e. the majority of respondents could do most of the tasks, whereas the numeracy scores were much more evenly distributed. The means (M) and 1 % confidence intervals (CI) for the scores further reflect the different distributions (Literacy: M = 7.97, CI = .10; Numeracy: M = 5.99; CI =.14). This underlines the point that literacy difficulties of the kind the test revealed are fairly rare, whereas numeracy difficulties are widespread. It also suggests that whether difficulties are acknowledged as such is as much to do with the demands of the immediate situation - at work or at home - as with objectively poor performance. Thus people who acknowledge writing problems, for example, may include some whose occupation involves a lot of writing and who feel there is

room for improvement. Demand for numeracy skills is weaker; hence their absence is not perceived as a problem.

At the age of 16 in the mid 80s, BCS70 cohort members had the opportunity to stay on in education or leave. Those who stayed on could either pursue the academic "A" Level courses leading to higher education or move on to a Further Education College to take vocational courses leading to a vocational qualification. Those who left might get a job directly, or after doing some youth training, ideally with a potential employer, first. The less successful could expect to experience a mixture of training and part-time and full time unskilled jobs interspersed with unemployment; others might opt out of the labour market altogether.

Only one in five with low literacy scores had stayed on in education compared with two thirds of those with high scores. Much the same picture was apparent for the numeracy scores. More boys with low literacy and numeracy scores, were leaving the system than were girls. The higher proportions of low scoring girls staying on reflects the different kinds of occupations that boys and girls seek: the girls were seeking preparation for secretarial and clerical employment, where proficiency in verbal skills was at a premium, and the boys were hoping to enter a skilled trade.

Basic skills difficulties also appeared to be pushing the early leavers into different career patterns. Boys with low scores tended either to get jobs (47 %) or to reside in Youth Training schemes (27 %). Girls either got jobs (42 %) or moved into the mixed category of unemployment, short-term jobs and exit from the labour market (26 %). In the order of 40 % of the young people in the different low skills groups had not gained jobs by the age of 19, compared with one quarter of all respondents.

(b) Basic skills and work-related skills

Problems with the basic skills carried through into problems with acquiring more specific work-related skills. For some of the skills, there were no differences in the percentages who had a basic skills problem and the total sample. Those skills where the basic skills problems group was behind the others were, as we might expect, the cognitive types of skills like writing and calculating; more interestingly, they were also behind on such key skills for modern employment as keyboard, computing and finance. For men the only skill where the low scoring group was superior was in "using tools" - the one skill which in Britain's unregulated labour market, at least, anybody can claim to have when offering building services, for example. For women the list of skills associated with poor literacy extended, with the literacy problem also working against such key female employment skills as teaching, advising and supervising. The only skill where the low literacy group appeared to have a possible advantage was "caring", presumably because so many of this group were at home looking after children.

How important are these work related skills in relation to employment. Absence of exactly the same work related skills that were underpinned by the basic skills turned out to be related to propensity for unemployment (in the case of men), and for unemployment and being "at home", in the case of women. Compared with the sample as a whole, the men who were unemployed tended to see themselves as doing worse

than the others at writing, keyboard, computing, calculating, finance and organising skills. Women who were unemployed or "at home" shared this disadvantage. They also saw themselves as weaker at teaching, advising and supervising. It seems from these results that certain key skills of this kind are central to employability in the modern state. Absence of them restricts prospects of employment in key areas of work for men and women; hence the lower prevalence of these skills among those out of the workforce through unemployment or home care. This tends to run counter to the social exclusion position that discounts the importance of these kinds of work-related skills. On the other hand, with one or two exceptions, the differences between groups, were not very large and many skills did not seem to be significantly related to the basic skills - most notably speaking, constructing, caring and selling for both sexes; advising, teaching, supervising, finance and organising for men and writing and using tools for women.

(c) Psychological well-being

The previous figures pinpoint absence of key skills as playing an important part in a young person's employment problems. We now turn to the other personal characteristic measured in the survey, which seems likely both to arise from and to aggravate further the employment problems associated with skills deficits: psychological depression associated with low self-esteem, *Malaise*.

Figure 1   BASIC SKILLS AND MALAISE
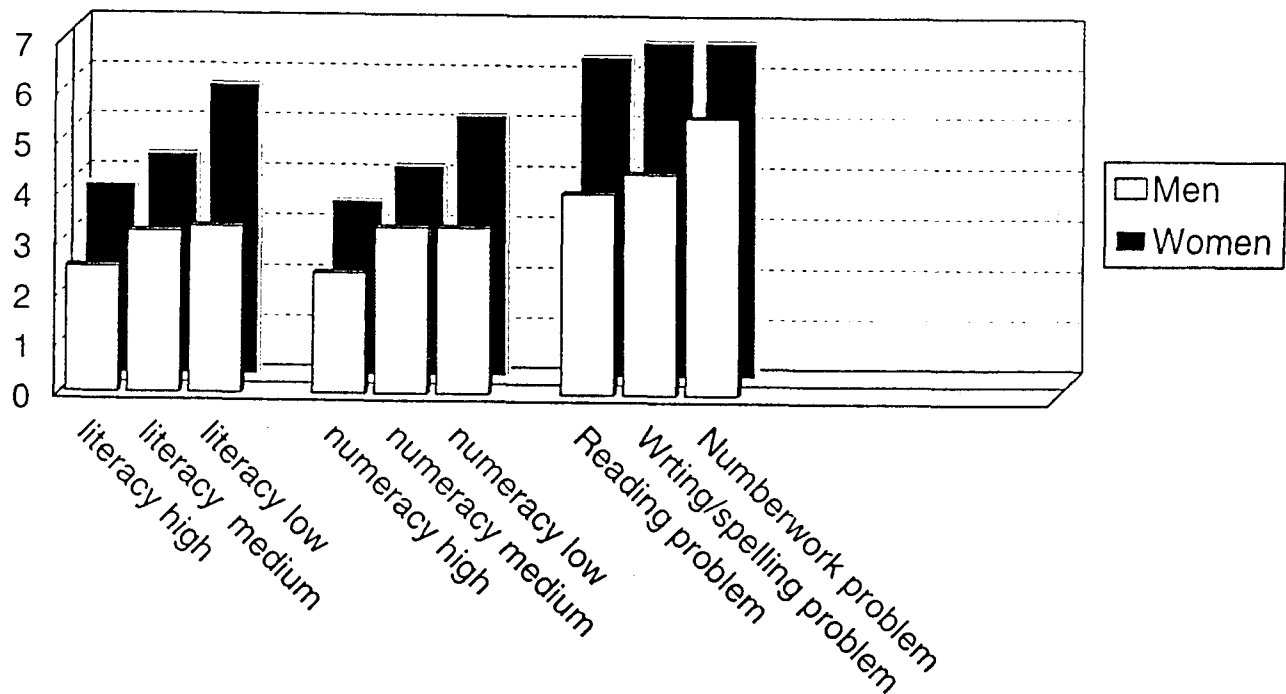
Malaise Mean Scores

Figure 1 compares the mean Malaise scores for the three literacy and the three numeracy groups and the self-reported problem groups. Moving from the *high* skills to the *low* skills groups, the Malaise scores *increased*, especially among the young women ($P<.001$). The highest mean malaise scores were for the self-reported problems. In other words, skills deficiencies were accompanied by a measurable degree of depression and reduced self-esteem, especially when the basic skills deficiency was acknowledged.

This points to the centrality of basic skills in the young person's self-esteem. Poor self-esteem seems likely to exacerbate even further the problems young people lacking skills have in persuading potential employers to recruit them. Poor psychological well-being and skills deficits thus seem likely to reinforce each other in depressing individuals' employment prospects (*cf.* figure 1).

(d) Modelling basic skills

We now turn to the multivariate examination of first, the antecedents in earlier life of adult basic skills scores (Analysis A) and secondly, the relative importance of the basic skills variables, the work-related skills and Malaise in explaining unemployment (Analysis B).

Analysis A: Antecedents of Literacy and Numeracy

Tables 3 and 4 show the statistically significant ($p<.05$) regression coefficients for the regression of literacy and numeracy scores on antecedent variables obtained at each of the stages of the multiple regression analysis, as shown in Table 1. The first column of Table 4 gives the standardised regression (beta) coefficients for literacy and numeracy regressed on variables measured at birth, the next column for variables measured at birth and 5, the next for birth, 5 and 10, and the final column, birth, 5, 10, and 16. In the bottom row of the table the percentage of variance explained, as expressed by the multiple correlation coefficient squared (R^2), for each analysis is given.

Table 3
Summary of results of multiple regression analysis:
21 year reading (Re) and numeracy (Num) scores (outcome variables)
regressed on earlier circumstances experience and performance (explanatory variables)

	Birth only		Birth and 5 only		Birth, 5 and 10		Birth, 5, 10 and 16	
	Re.	Num	Re.	Num	Re.	Num	Re.	Num
Birth								
sex	.06	.06	.07	.19	**.12**	**.17**	**.12**	**.17**
family social class	**.21**	**.18**	**.10**	.07	ns	ns	ns	ns
mother's education	**.14**	**.12**	ns	ns	ns	ns	ns	ns
Age 5								
copying designs test			**.22**	**.25**	.11	.13	.09	.11
EPVT vocabulary			**.15**	.06	ns	ns	ns	ns
Number of words read correctly			.05	.07	ns	ns	ns	ns
parents' highest qualifications			**.08**	**.08**	ns	ns	ns	ns
mother's age of leaving education			ns	ns	ns	ns	ns	ns
rented housing (-)			.06	**.08**	ns	ns	ns	ns
crowding (-)			.06	**.08**	ns	ns	ns	ns
poor neighbourhood (-)			ns	ns	ns	ns	ns	ns
mother reads to child			.05	.05	ns	ns	ns	ns
television: hours watched (-)			ns	ns	ns	ns	ns	ns
<u>pre-school education</u> whether had any			ns	ns	ns	ns	ns	ns
Age 10								
reading score					**.38**		**.30**	
mathematics score						**.37**		**.30**
rented housing (-)					ns	ns	ns	ns
crowding (-)					ns	ns	ns	ns
income					ns	ns	ns	ns
school difficulties (-)					**.09**	ns	**.10**	**.16**
medical difficulties (-)					ns	ns	ns	ns
missed school (-)					ns	ns	ns	ns
school intake ability level					ns	ns	ns	ns
mother's interest					ns	ns	ns	ns
father's interest					ns	ns	ns	ns
number in remedial reading					ns	ns	ns	ns
Age 16								
ILEA GCE and CSE examination score							**.26**	**.25**
income							ns	ns
rented housing (-)							ns	ns
Percentage of variance explained	9 %	10 %	22 %	23 %	33 %	38 %	35 %	38 %

NB (-) = negative effect; ns = not statistically significant; strongest predictors (regression coefficient >.08) are shown in bold.
(EPVT: English Picture Vocabulary Test)

Table 4
Summary of results of multiple regression analysis:
16 year reading examination performance, 10 year reading scores and 10 year numeracy scores
(outcome variables) regressed on earlier circumstances experience and performance
(explanatory variables) back to age 5

	10 year reading	10 year numeracy	16 year examination
Birth			
sex	ns	.08	ns
family social class	.08	.06	.05
mother's education	.07	ns	.08
Age 5			
copying designs	.17	.18	.08
EPVT vocabulary	17	.10	ns
Number of words read correctly	.11	.10	.05
parents highest qualification	ns	ns	.06
mother's age of leaving education	ns	ns	ns
rented housing (-)	ns	ns	.06
crowding (-)	.08	ns	ns
poor neighbourhood (-)	.ns	ns	ns
mother reads to child	.06	ns	ns
television: hours watched (-)	.06	ns	ns
pre-school education	ns	ns	ns
Age 10			
reading score			.29
mathematics score			
rented housing (-)	.07	.07	.08
crowding (-)	ns	ns	.06
income	ns	.06	ns
school difficulties (-)	.28	.21	.05
missed school (-)	ns	.05	.05
school intake high ability level	ns	ns	ns
mother's interest	ns	.10	.08
father's interest	.12	ns	ns
number in remedial reading (-)	.06	.12	.05
streaming	ns	.07	ns
council estate catchment	ns	.06	ns
Percentage of variance explained	38 %	30 %	34 %

NB (-) = negative effect; ns = not statistically significant ; strongest predictors (regression coefficient >.08) are shown in bold.

First, it is notable from Table 3 that the percentage of variance explained increases in size as the more recently measured variables are brought into the analysis, levelling off at age 10. This underlines the importance of the primary school years up to the age of

10 as the key period for acquisition of the basic skills. Next, as more recently measured variables are brought into the analysis, most of the variables measured earlier tend to disappear from the regression, with one or two exceptions. Notably the visual motor skills, as assessed by a copying designs test at age 5, and gender, retain their importance in all analyses, i.e. they are not superseded by variables brought in at later stages. The dominant influence on the adult basic skills scores, as indicated by the regression coefficients, appears to be various measures of cognitive performance early on in the child's life, initially at age 5 (pre-school), subsequently at age 10 (reading and numeracy performance) and finally at age 16 (leaving examination performance). On the other hand, these cognitive performances themselves appear to be influenced by a range of circumstances and experiences at each age. Table 4 demonstrates this result by showing the regression coefficients, first of all for 10 year reading and numeracy scores regressed on all the variables that preceded them temporally and similarly for the 16 year examination scores regressed on all the variables that preceded them. This time, smaller R^2 were obtained, indicating that less of the variance in the dependent skills variables can be attributed to other variables, but the coefficients are still highly statistically significant. We can also now see evidence of the possible effects of a range of other circumstance and experience variables on these early cognitive performances. Thus variables such as overcrowding, whether mother reads to child, at age 5, school difficulties (as recorded by teachers), and fathers' interest in the child's education, all seem to be implicated in the 10 year reading performances, as indicated by significant regression coefficients. In the case of numeracy, more of the circumstance variables at age 10 come into the picture.

In summary, we see that at each stage of the child's life, basic skills are emerging through a process of interacting influences: teaching and learning in the school itself, family interactions, around educational assistance for the child, relations with the school, as reflected by teachers' judgement of interest shown by the parents, and material circumstances of the home.

Analysis B: Skills, unemployment and exit from the labour market

The second analysis is a simple multiple regression, of first the number of months unemployed regressed on the basic skills scores and the work-related skills and the Malaise score (for men and women separately and second, for women only, the months out of the labour market "at home". Separate analyses were carried out for the whole sample and the sub-sample who had experienced exit from the labour market under either heading.

To simplify the analysis and help reduce the effects of multicollinearity between the explanatory variables, the work-related skills were factor analysed, using principal components analysis followed by Varimax rotation of factors with eigenvalues greater than 1 (Bynner and Fogelmann, 1993). Five factors associated with distinct groups of interrelated skills were identified, as indicated in Table 2: verbal skills; constructional skills; caring skills; keyboard skills; organisational skills. For each group of skills an aggregate factor score was obtained by averaging the scores across the individual skills (good=4, fair=3, poor=2, don't have skill=1).

Table 5 shows that for unemployment the largest (negative) regression coefficients were consistently obtained for one of the basic skills variables (literacy [men] and numeracy [women] and that these regression coefficients increased in size when the analysis was restricted to those who had ever experienced unemployment. Notably, Malaise emerged as significant in the total sample analysis for men and in both analyses for women; in fact, for women of all the explanatory variables, Malaise had the largest (positive) regression coefficient. The percentage of variance explained exceeded 9 % for both sexes though was slightly larger for males. The work-related skills variables did not emerge as significant predictors - with the exception of organisational skills (negative) in the men's total sample analysis. The result shows that acquisition of the basic skills (on which educational qualifications depend) is critical in acquiring and retaining employment. In the case of women, positive affect also appears to be a critical factor: the more malaise expressed the more unemployment the woman was likely to have experienced. This points to a distinctive syndrome developing in women of poor basic skills accompanied by depression and unemployment. For whatever reason, men show less evidence of these accumulating psychological effects on the propensity to unemployment.

Table 5
Results of the multiple regression analysis:
Amount of unemployment regressed on basic skills, work-related skills and malaise

	Males		Females	
	Total sample	Unemp. sample	Total sample	Unemp. sample
Literacy score	-.13*	-.23*	-.08*	- .04
Verbal skills	01	.02	-.03	.07
Constructional skills	-.04	-.05	.06	.01
Caring skills	.00	. 05	-.02	.01
Keyboard skills	-.03	-. 01	-.05	. 07
Organising skills	-.09*	-.12	-.06	-.06
Numeracy scores	-.11*	-.11	-.11*	-.23*
Malaise	.08*	.06	.14*	.13*
Percentage of variance explained (R²)	8 %	13 %	6 %	9 %
n	683	292	766	266

Note: * = statistically significant (P<.05)

Table 6 shows that the main alternative to employment that women report, "being at home", relates similarly to a basics skills score - literacy (negative), but the highest regression coefficient is for caring (positive) and organising (negative). These are followed by keyboard skills (negative) and Malaise (positive), (13 % of the variance is accounted for). The overriding significance of caring skills in characterising being at home reflects the common activity of child rearing among young women in this situation. Also notable, is the tendency towards poor literacy and keyboard skills and lack of supervisory / organisational skills gained at work.

Table 6
Results of the multiple regression analysis:
Amount of time spent at home regressed on basic skills,
work-related skills and malaise - females only.

Females

	Total sample	Home sample
Literacy score	-.15*	-.10
Verbal skills	.03	.11
Constructional skills	.02	.12
Caring skills	.21	.16
Keyboard skills	-.10	-.17
Organising skills	-.20*	.00
Numeracy scores	-.03	-.13
Malaise	.07*	.03
Percentage of variance explained (R^2)	13 %	13 %
n	712	106

Note: * = statistically significant (P<.05)

Analysis C: LISREL model for basic skills, work-related skills and unemployment

The regression analyses enable us to build up a picture of the processes involved first in skills formation and then in propensity to unemployment, in a series of stages from the examination of the relationship between variables across time. The technique of structural equation modelling (Jöreskog and Sörbom, 1979), which as LISREL is part of the SPSS software package, provides the opportunity to incorporate all the revealed relationships in a single model which can be tested against the observed data - in this case correlation coefficients among all the observed variables. The model is specified by indicating which parameters, e.g., path coefficients, are to be estimated and which ones are to be fixed at zero (i.e., no causal path is postulated between the relevant variables). In the preliminary modelling exercise attempted here, we restrict the parameter estimates in the model to "path coefficients" (standardised partial regression coefficients) and residual variances and covariances, as in the earlier regression analyses, i.e., the facility available in LISREL of including latent variables, involving single constructs with multiple indicators, is not employed.

The advantage of using LISREL is that we are able to estimate the path coefficients measuring the strengths of relationships between variables across time while controlling for the effects of variables representing influences that occurred earlier in the young person's life. This give us a more rigorous means of identifying, and thereby tracing across time, the dominant influences on the young person's propensity to unemployment and estimating the strength of their effects. The program also produces a number of "goodness of fit" indices, including chi square for a given number of degrees of freedom, a goodness of fit measure (adjusted for degrees of freedom -

AGFI) with a range of 0-1, and the root mean square residual (RMS), which is the root mean square of the differences between the observed correlations between the variables and those implied by the model. The percentage of variance in the ultimate dependent variable in the model - in this case, amount of time spent unemployed since leaving school - is given by subtracting the estimated residual (unexplained) standardised variance from 1 and multiplying by 100.

Broadly the aim of a LISREL analysis is to specify a model that fits the data well, i.e., has a small value of chi square relative to the degrees of freedom, a high goodness of fit index (approaching 1) and a low root mean square residual (approaching 0). This is achieved by releasing constraints on the parameters fixed initially at zero. The ones which are most likely to produce the largest improvements in fit are identified with large "modification indices" broadly showing the reduction in chi square that may be expected if the parameter is estimated rather than fixed at zero. However, in releasing parameters to improve fit, there is always the risk of capitalising on chance, so the preferred strategy is to adopt a model which is below optimum fit; i.e., the goodness of fit indices suggest that improvements could be made, but not of the kind that would change substantially the conclusions from the model.

For the purposes of the LISREL analysis reported here, variables were selected for the model which had been identified through the regression analysis as being important predictors of unemployment (Figures 2 and 3). Thus at birth the variables selected were social class of family (as obtained from father's occupation), and mother's age of leaving full-time education; at age 5, the variables were measures of sensori-motor skills and vocabulary, family circumstances, as indicated by type of housing tenure, and whether the mother read to the child; at age 10 the variables were measures of reading and maths ability, family circumstances and parental interest in the child's education. To hold constant overall the effects of school leaving age and qualifications on unemployment, the analysis was restricted to cohort members who left school at the minimum age, 16. Because of the much reduced sample, the 16 year-old variables were not included. At age 21 the literacy and numeracy variables were included and placed prior in the model to the work-related skills factors and the malaise score. Finally the number of months spent unemployed was specified as the ultimate dependent variable in the model.

Figure 2 gives the path coefficients and goodness of fit indices for men and Figure 3 for women. The different types of line in the diagrams indicate paths of different strength. Thus a double line signifies a path coefficient of .3 or more, a single unbroken line, a path coefficient of between .20 and .29, and a broken line, of between .12 and .19. Lines with path coefficients below .12 are treated as insignificant and are therefore not shown on the diagrams (for correlational data standard error estimates are imprecise in LISREL, so conventional statistical significance criteria are inappropriate. A cut-off of .12 gives a highly conservative evaluation of significance).

The striking results of these analyses is first that despite the number of controls operating within the model as a high a percentage as 9 % of the variance in months of unemployment is still explained by it. The second result of interest is the differences in the critical path coefficients for men and women. For men, poor numeracy appears to increase propensity to unemployment as do caring skills. For women both these

effects occur at exactly the same level, but an additional path from Malaise is also apparent. In other words Malaise, with its connotations of depression and low self-esteem, can be considered to exercise an independent effect on the likelihood of being unemployed.

Working through the models, we see paths from disadvantaged family background running through deficits in cognitive skills leading ultimately via poor literacy and numeracy to unemployment. Notably, rented housing (the measure of material disadvantage) appears to influence numeracy (negatively) for women but not for men. Family support for education does not appear to influence numeracy or literacy for men but shows a strong effect at age 10 on adult literacy among women.

Figure 2 Basic skills, work-related skills and unemployment: LISREL model, Males (n = 264)
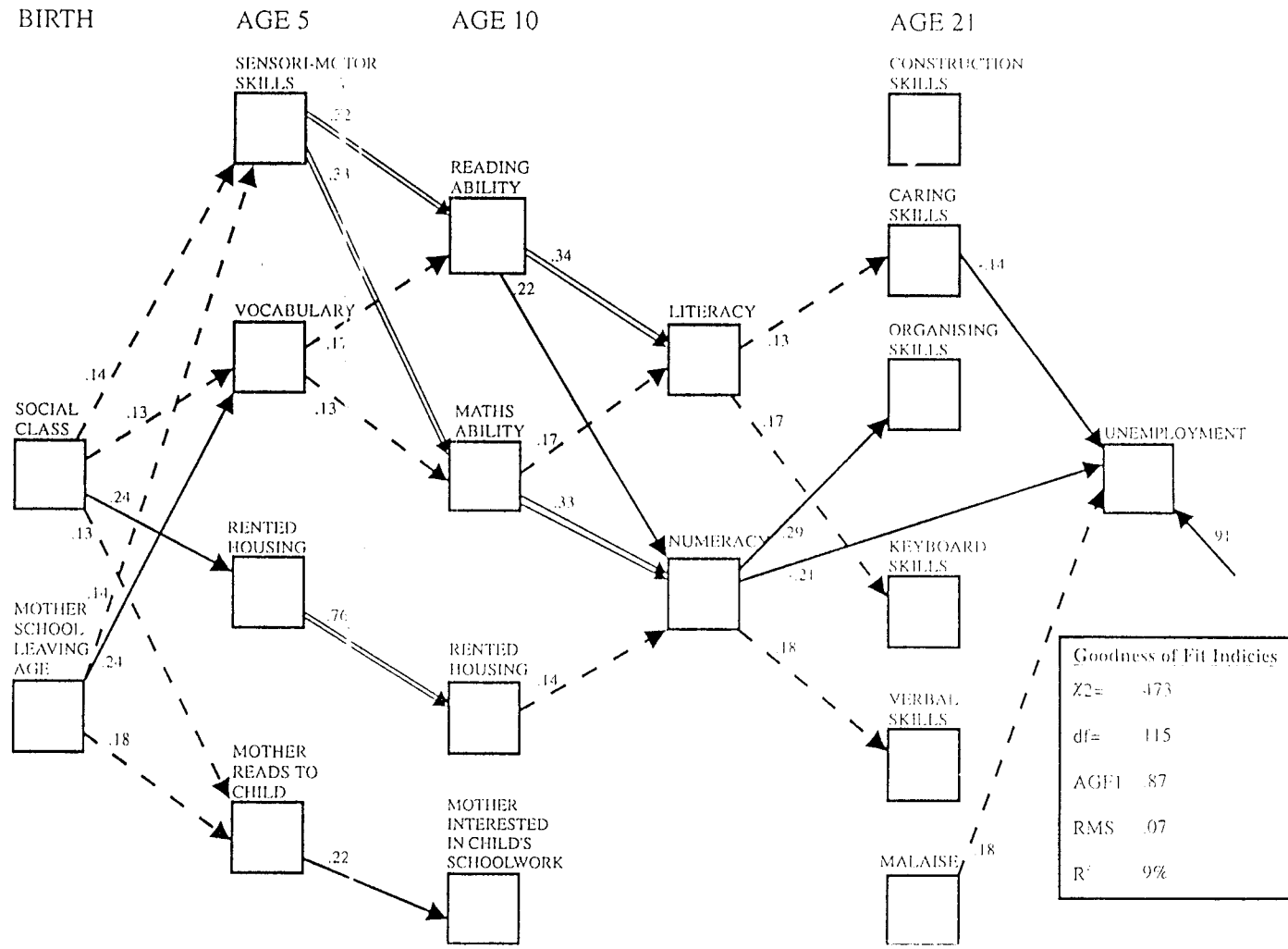

84
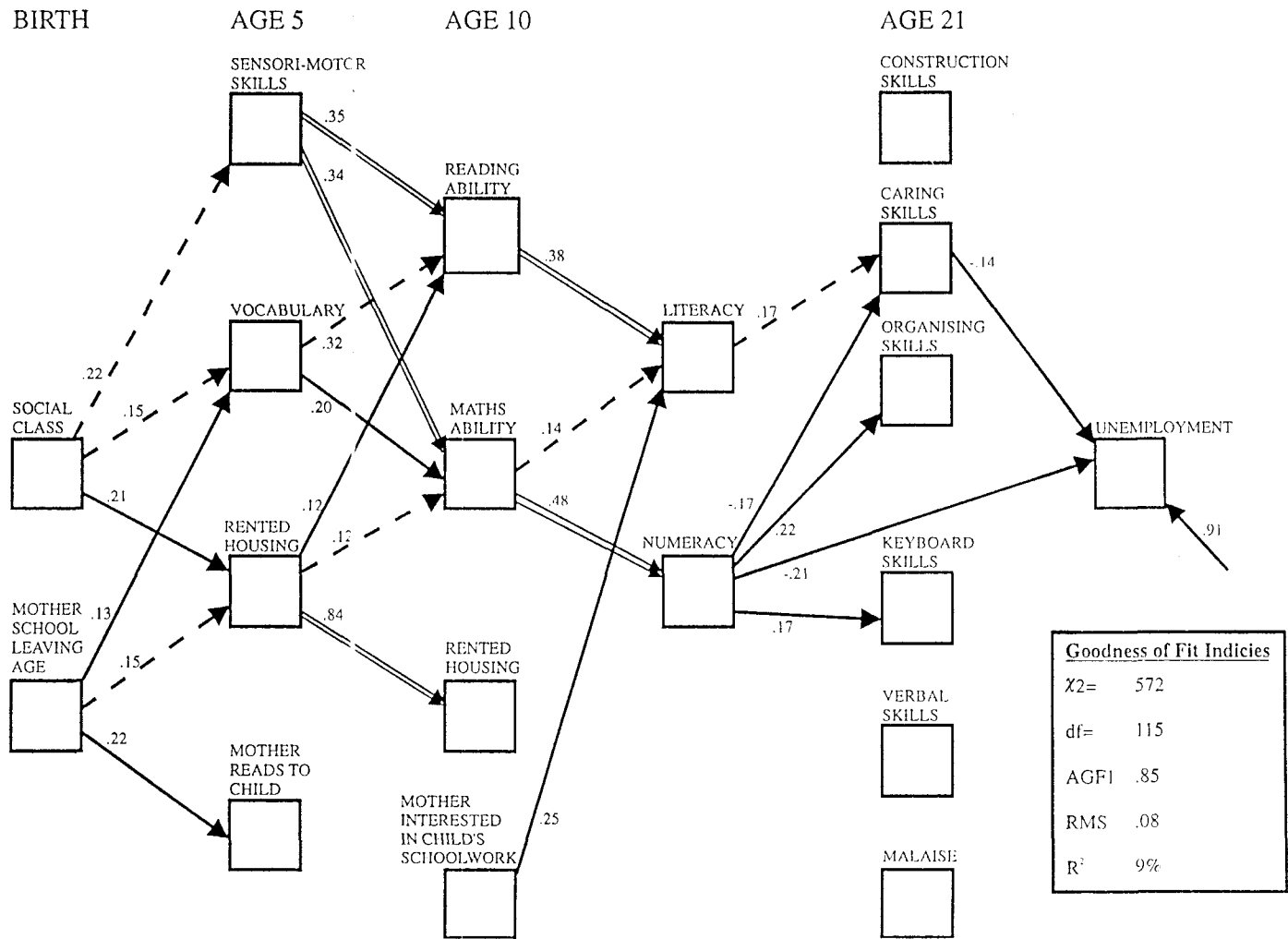
Figure 3 Basic skills, work-related skills and unemployment: LISREL model, Females (n = 337)

4. DISCUSSION

The results reported here demonstrate that basic skills rather than the more directly work-related skills are key factors in employability. Although labour market factors are likely to affect employment wherever young people seek work, personal characteristics, as embodied in the basic skills for men and women, and additionally, self-esteem in women, are also critically important. The difficulties in acquiring basic skills are produced by a combination of material disadvantages and failure of families to reinforce educational experiences at home. The weaker explanatory value of the other work-related skills suggests that they are less significant in employers' eyes, in assessing employability, than the basic skills of literacy and numeracy. This strengthens the arguments of the social exclusion theorists, who question the centrality of work-related skills in the policies and practices prevailing in preventing youth unemployment. However, actual functioning within a job clearly does depend on the acquisition of these kinds of skills, so although their absence may not be much of a barrier to employment in the early stages of the transition from school to work, successful functioning within employment, and progress via promotion to higher levels of work, are likely to be affected crucially by the possession of these work-related skills.

Notably another kind of skill - caring - appears to be heavily associated - along with poor literacy skills and poor organisational skills - with women's main response to difficulties in the labour market, exit from it to be "at home". The smaller size of the regression coefficient for malaise suggests slightly less significance for it in the "syndrome" of being at home. It is tempting to conclude that the compensation for poor labour market experience gained by young women through maternity does work to a certain extent against depression, but the fact the coefficient remains significant, suggests that overall Malaise is still implicated in or arises from exit from the labour market.

Notably, the more rigorous preliminary LISREL analysis, with a restricted range of variables, by and large, supported the earlier conclusions for unemployment, identifying poor numeracy particularly as being implicated in unemployment, together with absence of caring skills, and in the case of women, malaise or depression.

It needs to be acknowledged that the analysis was based on samples depleted by attrition. This posed particular problems for the effective use of the LISREL programme, where complete data is required across all the variables in the analysis. It is planned to use new statistical imputation methods for estimating missing values in further analysis of these data, which would enable 16 year old variables to be included.

Another planned enhancement is to use the latent variables facility in LISREL to model more precisely the measurement relations between the manifest indicator variables and the constructs that can be considered to underlie them. Thus much more precise estimates of the relations of the work-related skills factors to other variables can be obtained by replacing these variables by latent constructs and modelling their relations to the 15 work-related skills which were indicators for them. Similarly, such constructs as family circumstances and family interest in the child's education can be

measured more reliably from a range of indicators. Knowledge of the reliabilities of the literacy and numeracy test scores can also be used to take account in the model of measurement errors for these variables. The effect of these improvements will be to correct the estimates of the path coefficients for attenuation. This will enable more experience and circumstance variables to be identified as significant influences on unemployment and to enhance substantially the percentage of variance explained by the model.

With respect to role of the key work-related skills in employability, the analysis points to a relatively small role for them vis-à-vis the basic skills, which raises the question of whether their measurement was adequate. The subjective measures of work-related skills may be thought as lying closer to "social representations" (of self) than to objective measures of work-related skills. Nevertheless it seems unlikely that better measures of work-related skills would substantially affect the conclusions about their importance in employability. Through the subjective element involved, the measures of work-related skills also tap, perhaps more directly than would be the case for objective measures, the role of skills in personal identity, that is, how the young person perceives and presents him or herself to other people. Thus young adults with poorly developed basic skills tend to identify themselves with occupational areas where such deficits are not seen as obstacles to an occupation. Young men profess themselves to be good at the kinds of tool using skills that typify the lower end of the building trade - odd jobs and so on. Young women offer caring, the skill most closely associated with being at home and looking after the family. This narrowing down of occupational possibilities seems essential to the achievement, in Erikson's and Marcia's, sense of adult identity (Erikson, 1956 and 1968; Marcia, 1966); though for many young adults it is more akin to a continuing state of diffusion - with no clear occupational identity emerging.

There is a relentless logic about the problems of poor acquisition of basic skills, which these results bear out. The lack of human capital they reflect imparts to individuals continuing problems of access to employment, which are exacerbated in the modern world, where unskilled work is ever-diminishing and a range of personal and academic competencies are at an ever-higher premium. There are signs of a vicious downward spiral here to the margins of the labour market (or early exit from it in the case of young women), which youth training, directed at imparting a range of specific job-related skills, may do little to impede. In the modern labour market basic human capital is the key requirement for entering employment and the basic skills serve not only as protection against the risk of early and continuing unemployment, but as essential elements in the formation of adult occupational identity.

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MOBILITÉ PROFESSIONNELLE INITIALE : ÉDUCATION OU EXPÉRIENCE SUR LE MARCHÉ DU TRAVAIL

UN MODÈLE *PROBIT* A EFFET ALÉATOIRE

Didier Balsan
Saïd Hanchane
Patrick Werquin

Résumé

Plusieurs modèles *Probit* à effet aléatoire sont estimés sur des données de panel décrivant chaque année, pendant six ans (de 1989 à 1995), la position des jeunes sur le marché du travail. L'accent est mis sur le rôle comparé des caractéristiques connues dès la fin de la formation initiale et de celles acquises sur le marché du travail. Ces deux ensembles de variables ont des effets significatifs sur la probabilité de détention d'un emploi aux différentes interrogations. L'article milite donc en faveur d'un réexamen du rôle de la formation (niveau, diplôme, spécialité) pour expliquer la transition professionnelle, rôle qu'elle avait souvent perdu au profit de l'expérience acquise en situation d'emploi dans des travaux récents. La part de l'hétérogénéité individuelle non observée demeure forte malgré l'utilisation de données d'enquête détaillées (Céreq).

Abstract

Youth Transitions: Initial Human Capital or Labour Market History
A Variance Component Model

Several models Variance Component Models are estimated on panel data. They are *Probit* models where we estimate the probability of having a job (a permanent one -CDI- or a fixed term contract - CDD- one). We know the monthly position on the labour market (employed, unemployed, youth scheme, out of the labour force, etc.) of almost 2 500 early school leavers (pre Bac.) who have exited school or a training centre for apprentices in June 1989. We follow them up to 1995. The paper focuses on the role of the characteristics of the young people as they are known in June 1989 (initial human capital) compared to the experience obtained from their history on the labour market (previous job, youth programme, etc.). Both the sets of variables are significant.
Our results shed some light on the determinants of successful transitions to employment. They also would invalidate previous results that give all the importance to history on the labour market. Using longitudinal data (retrospective panel data surveys) and including unobserved heterogeneity help to better explain initial professional mobility.

La période qui va de la fin de la formation initiale au premier emploi durable est de plus en plus longue pour les jeunes qui n'ont pas le baccalauréat général. L'étude de cette période, pour la cohorte sortie de formation initiale en 1989, révèle que si les premiers mois ou les premières années sur le marché du travail sont capitales pour expliquer la probabilité de détention d'un emploi, les caractéristiques des jeunes à la sortie de la formation initiale sont aussi très importantes.

La spécialité de formation, le niveau de formation et de diplôme influencent significativement la probabilité de détention d'un emploi, même jusqu'à cinq ans après la sortie du système éducatif. Ceci est plus net pour les femmes que pour les hommes.

Ce résultat a d'autant plus de poids que les variables d'acquis sur le marché du travail décrivant la primo mobilité sont aussi introduites dans les estimations. On identifie l'habituelle mobilité ascendante (d'emploi(s) sous contrat à durée déterminée vers emploi sous contrat à durée indéterminée). On trouve aussi que la perte d'un contrat à durée indéterminée peut retarder la détention d'emploi.

INTRODUCTION

Le nombre important de jeunes privés d'emploi à l'issue de la formation initiale, notamment parmi les moins diplômés d'entre eux[1], continue de polariser l'attention sur le problème de la transition professionnelle des jeunes de niveau inférieur au baccalauréat général. Sont ainsi régulièrement traités des sujets comme la transition hors du chômage et/ou la durée du chômage ainsi que le rôle des mesures jeunes (Bonnal et *alii*, 1994 ; Lechene et *alii*, 1995 ; Werquin, 1996). On construit aussi des indicateurs d'accès au premier emploi ou de chômage cumulé, ou bien encore des indicateurs de séquences de situations sur le marché du travail afin de repérer la présence du chômage et la place des dispositifs jeunes (Aucouturier et Gelot, 1994 ; Combes et Zilberman, 1988 ; Sigot et Werquin, 1993).

La mobilité professionnelle des jeunes qui accèdent à des emplois[2] reste, en tant que telle, un peu plus dans l'ombre. La mobilité est pourtant au centre des discussions relatives à l'insertion des jeunes. Le constat n'est pas nouveau, d'ailleurs, si l'on en juge par l'évolution du vocabulaire qui retient depuis plus de dix ans "transition professionnelle" plutôt qu'"insertion professionnelle" pour qualifier le paradigme au centre des travaux sur ce thème (Rose, 1984) ; la transition de et vers l'emploi constituant un cas particulier de la mobilité professionnelle.

Toutes ces questions sont donc évidemment liées pour établir la nature des trajectoires observées en début de vie active, les profils types des individus soumis à un plus grand risque de non insertion durable ou d'exclusion de l'emploi et, de manière générale, mettre en place les moyens de remédier aux problèmes générés par la pénurie d'emplois. A titre d'exemple, un consensus est maintenant établi autour d'une appréhension dynamique du problème de la précarité (Nicole-Drancourt, 1992) : la description des

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[1] 23 % des filles et 15 % des garçons sont au chômage cinq ans après la sortie de l'enseignement secondaire ou d'un Centre de formation d'apprentis. Sur ces cinq années, seulement 19 % des filles et 35 % des garçons ne connaissent pas le chômage.

[2] Seuls 3 % des jeunes issus d'un niveau inférieur au baccalauréat général accèdent, dans les premiers mois qui suivent la sortie de l'école ou d'un Centre de formation d'apprentis, à un emploi qu'il conserveront au moins cinq ans.

phénomènes d'exclusion n'a souvent de sens que comme l'aboutissement d'une série d'événements stigmatisant l'individu. De même, la détention d'un emploi peut être vue comme la conséquence d'un processus dynamique dont il convient de décrire les étapes. La question du point de départ de ces processus reste entière, la théorie du capital humain n'apportant qu'une réponse partielle à l'articulation entre les deux sources d'explication : celle que l'on puise dans les caractéristiques du jeune juste avant l'entrée sur le marché du travail et la composante dynamique subséquente. On propose ici d'identifier, dans les déterminants de la détention d'un emploi *a priori* stable (contrat à durée indéterminée -CDI- seulement) ou d'un emploi ordinaire (CDI, contrat à durée déterminée -CDD- et intérim) à différentes dates, ce qui relève des conditions initiales et ce qui a trait aux événements connus sur le marché du travail.

Ainsi, parmi les difficultés que rencontrent des jeunes de niveau de formation inférieur à celui du baccalauréat général, la question de la succession des situations peu durables (CDD, certaines mesures jeunes, intérim) ou peu enviables (chômage, contrats ou statuts atypiques, certaines autres mesures jeunes) est assez largement liée à la question de la mobilité professionnelle en début de vie active.

De façon schématique, l'insertion professionnelle d'un jeune met en jeu quatre facteurs : les conditions initiales (caractéristiques observées de l'individu et de sa formation initiale), la qualité de l'entrée sur le marché du travail (pendant la primo transition), l'expérience professionnelle acquise[3] et les caractéristiques non observées spécifiques aux individus. Les interactions entre ces entités sont complexes. En particulier, la primo transition est une composante de l'acquis sur le marché du travail tout autant qu'elle conditionne l'expérience professionnelle acquise ultérieurement. L'ensemble explique l'insertion à moyen terme (graphique 1). Sans vraiment vouloir dater mais pour donner des ordres de grandeur, on situe le début du moyen terme à deux ou trois ans après la sortie de formation initiale. Ceci pour placer le court terme - les dix-huit ou vingt-quatre premiers mois de vie active - dans un rôle déterminant d'orientation et de dessin de l'insertion future.

Graphique 1
Transition professionnelle, hétérogénéité et condition initiale

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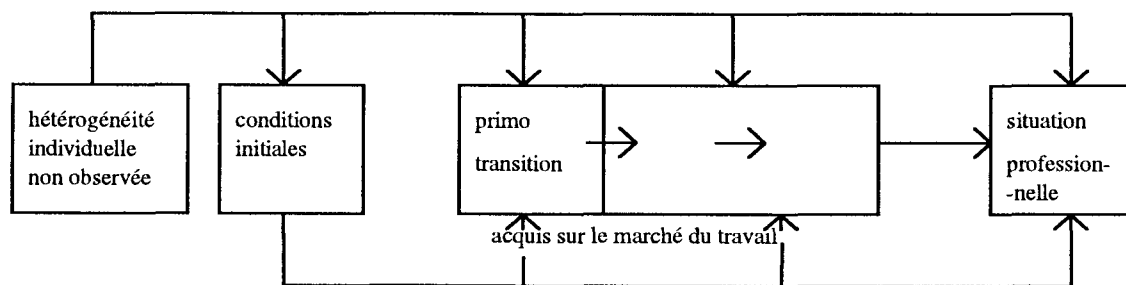
[3] Voir de Coninck et Godard (1989) pour un travail pionnier en sociologie : dans notre contexte, les "variables archéologiques" désigneraient plutôt les caractéristiques de la formation initiale et la "dynamique processuelle" s'appuierait sur l'expérience professionnelle. Le Goff (1995) utilise plus spécifiquement ces concepts dans l'étude du marché du travail avec des données du Céreq.

L'usage de données individuelles temporelles[4], par l'utilisation explicite de l'hétérogénéité individuelle[5] non prise en compte par les variables explicatives, permet de mieux estimer l'impact des trois premiers facteurs : les conditions initiales, la primo transition et l'expérience acquise. En effet, l'estimation d'un modèle à effet individuel permet de contrôler l'influence du quatrième facteur : les variables omises. Cette hétérogénéité non observée, mesurée par un effet individuel considéré comme n'évoluant pas dans le temps, intervient sur les trois facteurs et sur la détention d'un emploi proprement dite. Les conditions initiales observées influent, *a priori*, à la fois sur la qualité de la primo transition, l'expérience professionnelle acquise et l'insertion à moyen terme. Nous ne cherchons pas ici à expliquer la primo transition, mais plutôt à comparer l'impact, sur la détention d'un emploi à moyen terme des caractéristiques, des conditions initiales relativement à celles de l'acquis sur le marché du travail.

La première section rappelle des éléments de problématique sur l'insertion des jeunes, la troisième et dernière section donne et interprète les résultats des estimations des modèles à variables dépendantes limitées sur données de panel présentés dans la deuxième section.

1. LES PREMIÈRES ANNÉES DE VIE ACTIVE

Ce travail, par l'estimation de modèles à variables dépendantes limitées sur données par observations répétées, propose deux axes de réflexion :
- reconsidérer le rôle de conditions initiales vis-à-vis de l'acquis sur le marché du travail (section 1.1) ;
- utiliser une modélisation économétrique qui tienne compte de l'année de survenue de différentes situations dans l'explication de la probabilité d'avoir un emploi (section 1.2).

1.1. Conditions initiales et acquis sur le marché du travail

La question de l'accès à l'emploi des jeunes ne peut pas être dissociée de celle de leur mobilité professionnelle en début de vie active. Cette question a structuré une grande partie de la controverse entre la théorie du capital humain et la version dualiste de la théorie de la segmentation sur la valeur du diplôme et les conséquences du comportement "stratégique" ou "subi" en matière de première insertion. De l'analyse de Taubman et Wachter (1986), dans un article faisant la synthèse de cette controverse, ressort une question pertinente, relevant du domaine du constat empirique, mais qui reste sans réponse dans le modèle de capital humain : pourquoi deux individus qui disposent, *a priori*, du même stock de capital humain au départ, se retrouvent-ils ensuite dans des positions éloignées[6] sur le marché du travail ?

Dans la théorie du capital humain, l'acquis sur le marché du travail participe au processus d'accumulation de capital humain[7]. Mais, dans cette logique, deux individus

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[4] Observations répétées des mêmes personnes ou données de panel.

[5] Les modèles à variable dépendante limitée avec effet fixe ou aléatoire permettent de tenir compte des effets spécifiques aux individus mais ces effets ne sont pas estimés.

[6] La description de la position est ici multidimensionnelle : chômage, chômage de longue durée, emploi et ses attributs (salaire, stabilité, qualité du travail, contenu en formation, perspectives de carrière).

[7] Si la théorie du capital humain s'intéresse à la formation initiale et, plus récemment à l'acquis en formation durant la vie active, elle ne tient toutefois pas compte de la structure du marché du travail pour expliquer les hétérogénéités constatées en emploi.

ayant la même formation devraient avoir la même trajectoire sur le marché du travail. Or, très tôt, des différences se font jour qui peuvent sans doute expliquer des divergences très nettes ensuite. Ceci justifie l'examen du rôle respectif de la primo transition et du capital humain initial pour la détention d'emploi. Toutefois, puisque la théorie du capital humain peut expliquer des différences d'insertion par des acquis différenciés, à conditions initiales équivalentes, la seule question porte donc spécifiquement sur la période qui suit immédiatement la sortie de formation initiale ; c'est-à-dire pour des individus non encore dotés d'expérience sur le marché du travail.

A capital humain identique, les différences constatées à l'entrée sur le marché du travail renvoient à des analyses en terme de réseaux ou à d'autres explications sociologiques (Degenne et *alii*, 1991 ; Marry, 1983). Ainsi, ces variables explicatives déterminent pour partie l'acquis sur le marché du travail qui, avec les conditions initiales, déterminent la qualité de la transition professionnelle. Cette hypothèse justifie la prise en compte des deux informations - initiales et longitudinales - pour expliquer la détention d'un emploi. De plus, l'introduction des deux types de variables permet de tenir compte d'une éventuelle liaison directe entre conditions initiales et insertion, plusieurs années après la fin de la formation initiale (graphique 1). C'est, en tous cas, cet ensemble d'hypothèses qui est testé.

D'autre part, les travaux sur la segmentation offre une explication satisfaisante des dépendances entre états sur le marché du travail. Si, pour des raisons particulières, un individu passe, lors de sa première insertion, par des emplois de type secondaire, son capital va se dégrader et il risque d'avoir des difficultés à se stabiliser dans des emplois de type marché interne. Son itinéraire serait porteur en permanence de signaux négatifs qui renforcent les barrières à l'entrée des emplois décrits par la théorie comme relevant des marchés internes. Indépendamment des critiques adressées à la théorie dualiste de la segmentation, force est de constater que ses analyses ont surtout été bâties sur des données en coupe en recourant soit à des analyses factorielles des correspondances, soit à des modèles à changements de régimes sur fonctions de gain mal adapté à l'étude du dualisme[8]. Les conditions de la primo transition doivent ainsi avoir des conséquences sur l'insertion à moyen et long termes. Cet argument, relayé par de nombreux constats empiriques (Le Goff, 1995 ; Fougère et Kamionka, 1992) repose sur des estimations de modèles qui estiment le rôle de la primo transition sans tenir compte de l'influence des conditions initiales sur cette primo transition. Ce rôle central de la primo transition est clair mais il n'invalide pas pour autant le rôle des conditions initiales. L'introduction, dans les estimations, de variables décrivant le parcours du jeune sur le marché du travail permet donc également de capter de tels effets.

Si la double influence de la scolarité initiale et de l'expérience professionnelle semble acquise en matière de détermination du salaire (Goux et Maurin, 1994), elle est parfois mise à mal dans l'étude de la probabilité d'être en emploi au sens où l'expérience est maintes fois retenue comme seul élément déterminant de l'insertion professionnelle. Moncel et Rose (1995), par exemple, obtiennent comme résultat[9] que la détention d'emploi temporaire s'explique plus par l'âge et le secteur d'activité que par le diplôme. Les auteurs utilisent l'âge comme une variable proxy de l'ancienneté sur le marché du

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[8] Pour des critiques détaillées sur l'usage abusif des modèles à changements de régimes dans l'étude du dualisme voir Heckman et Hotz (1986) et Hanchane et Joutard (1996).

[9] Les données sont issues de l'enquête complémentaire à l'enquête emploi réalisée par l'INSEE en mars 1992, sur les jeunes de 18 à 29 ans.

travail. Ils constatent que "l'effet du diplôme s'estompe progressivement avec l'âge" et que l'ancienneté dans l'emploi occupé est aussi faiblement expliquée par le diplôme. Toutefois, ces résultats, obtenus à partir de données en coupe, négligent l'hétérogénéité individuelle et ne prennent pas en compte l'effet des conditions initiales sur l'acquis sur le marché du travail.

1.2. Situations et séquence de situations

La seconde direction de recherche part du consensus qui semble exister pour reconnaître que l'expérience professionnelle des jeunes en début de vie active conditionne fortement leur accès à l'emploi stable ou, tout au moins, la nature des emplois trouvés dans un second temps après la phase de primo insertion, que l'on situe immédiatement après la sortie de formation initiale. En d'autres termes, la nature de la mobilité connue par les jeunes à court terme après l'école pourrait expliquer leur insertion professionnelle à moyen terme. Les modèles qui rendent compte de tels résultats pèchent toutefois par une non prise en compte de l'ordre dans lequel ces situations interviennent et donc de la nature différenciée des interactions selon les séquences initiales de situations observées. C'est en effet parce que les jeunes connaissent différentes périodes d'un certain type, dans un certain ordre, qu'ils entrent ensuite en emploi ou non ; c'est parce que les séquences de situations des jeunes sur le marché sont ordonnées de manière positive (chômage - contrat de qualification - contrat à durée déterminée dans l'ordre, par exemple) qu'ils augmentent leurs chances de s'insérer ensuite de manière stable. Autrement dit, de manière plus dépouillée, les itinéraires de type chômage - mesure - CDD ne sont pas comparables aux séquences CDD - mesure - chômage. La prise en compte du passé dans les modèles explicatifs ne peut sans doute pas se faire indépendamment de l'ordre de survenue des situations. Il en est de même avec les événements de la vie privée des jeunes (départ du domicile familial[10], vie maritale, etc.).

Les travaux reposant sur l'estimation de modèles à variables dépendantes limitées dans lesquels on s'intéresse à la probabilité d'avoir ou non un emploi - et éventuellement à la nature de cet emploi - recourent à des modèles statistiques où la variable explicative est conditionnée au passé de l'individu en terme de nombre d'épisodes ou de durée dans certaines situations mais font rarement cas de l'ordre dans lequel ces situations sont intervenues, même s'il y a convergence de vue sur l'intérêt de le prendre explicitement en compte[11]. De ce point de vue, estimer un modèle *Logit* ou un modèle *Probit* sur des données de panel permet de tenir compte du moment où l'épisode intervient. Plus exactement, s'agissant de données collectées par vagues annuelles, le modèle permet de contrôler l'année pendant laquelle l'état est connu. La prise en compte de la séquentialité est donc partielle : elle n'est effective que si deux événements interviennent à des périodes différentes (par exemple entre la première et la deuxième enquête, d'une part, et entre la deuxième et la troisième, d'autre part).

La mobilité des jeunes sur le marché du travail est donc appréhendée ici au travers de modèles rendant compte, par exemple, d'une plus ou moins forte concentration de

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[10] Voir Dormont et *alii* (1996).

[11] On laisse ici de côté les travaux à partir de modèles de transition qui permettent de prendre plus explicitement en compte la chronologie des événements mais ne répondent pas exactement aux mêmes questions.

certains états en début de carrière ou à la fin de la période d'observation. De même, lorsque l'obtention d'un CDI est constatée cinq ans après la fin de la formation initiale, la part d'explication prise par la détention d'un CDD pour l'accès à ce CDI ne peut pas être considérée identique selon que le CDD intervient durant la première année après la sortie de formation initiale ou durant la quatrième année de présence sur le marché du travail. Il faut donc construire des modèles qui, dans le calcul d'un coefficient synthétique de corrélation entre occurrence d'états, tiennent compte des moments d'apparition des événements supposés explicatifs. En toute hypothèse, pour appréhender ce type d'effets, les modèles à variables dépendantes limitées restent supérieurs lorsqu'ils sont estimés sur données de panel plutôt que plusieurs fois sur des données en coupe successives parce qu'ils permettent, de plus, de tenir compte de l'hétérogénéité non observée (section 2).

Graphique 2
Transition professionnelle et données d'enquête
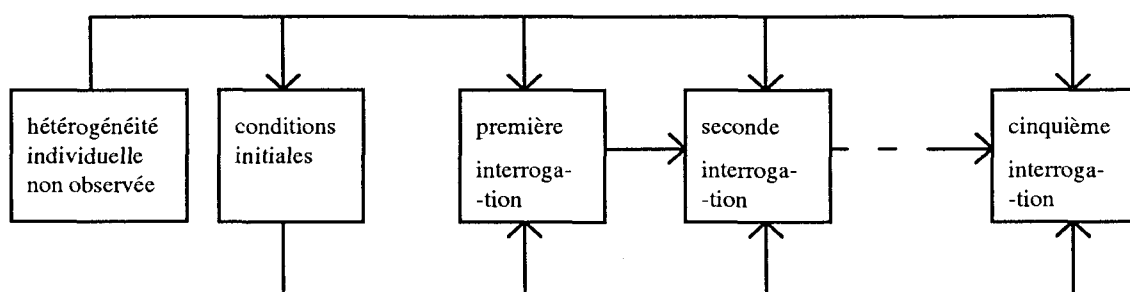
2. MÉTHODE : MODÈLE *PROBIT* SUR DONNÉES DE PANEL

Avec des données en coupe ou en séries temporelles (cas des agrégats macro-économiques), l'hypothèse d'homogénéité individuelle et/ou temporelle est nécessaire pour que les paramètres de l'équation de régression puissent être estimés. L'hypothèse d'orthogonalité des effets des variables omises par rapport aux variables explicatives du modèle s'impose généralement. Si cette hypothèse n'est pas vérifiée, comme cela est souvent le cas, alors les procédures d'estimation donnent lieu à des estimateurs biaisés. L'avantage des données de panel réside dans la possibilité de contrôler l'effet des variables omises lorsque la non orthogonalité entre les résidus et les variables explicatives est due à la corrélation entre ces dernières et les effets spécifiques individuels et/ou temporels. Le contrôle de ces effets est impossible sur des données en coupes. Cette raison suffit pour privilégier l'utilisation de données de panel, lorsqu'elles existent, quelle que soit la nature de la relation économique à estimer.

On distingue deux traitements des spécificités individuelles non observées : cet effet est fixe si on considère qu'il existe une constante (α_i) pour chaque individu, l'effet est aléatoire si le terme d'erreur (w_{it}) se décompose en une partie aléatoire propre aux individus (U_i) et un terme d'erreur habituel (ε_{it}). Dans le premier cas, les effets spécifiques sont propres aux individus dans l'échantillon et peuvent, dans le cas linéaire, être estimés. Dans le second cas, l'effet individuel est une variable aléatoire et l'intérêt porte sur la part de la variance de ce terme dans la variance du terme d'erreur global.

Alors que dans le cas linéaire il est possible de tester la nature, fixe ou aléatoire, de l'effet individuel, cela n'est pas le cas pour les modèles où la variable dépendante est qualitative. En particulier, lorsque la variable est binaire, le modèle *Logit* s'applique aux effets individuels fixes et le modèle *Probit* aux effets individuels aléatoires.

Il faut noter que les paramètres des effets fixes deviennent des paramètres incidents lorsque la procédure standard du maximum de vraisemblance est utilisée pour l'estimation d'un modèle *Logit*. Ceci donne lieu à des estimateurs non convergents. Le modèle *Logit* peut alors être estimé par la méthode du maximum de vraisemblance conditionnel (Hsiao, 1986 et 1992). Cette méthode d'estimation est spécifique au modèle *Logit* et consiste dans le conditionnement de la vraisemblance à la somme de la variable dépendante sur l'ensemble de la période. Les individus en emploi à chaque date d'interrogation, ou ceux qui ne le sont jamais, sont éliminés de l'estimation car ils n'apportent aucune information sur les changements de situations. Cette méthode a aussi pour conséquence d'interdire l'introduction de variables constantes dans le temps pour un individu, comme par exemple la spécialité de formation et se révèle donc inadéquate pour juger de l'importance relative des conditions initiales et de l'expérience professionnelle. Les estimations des paramètres associés aux variables décrivant cette expérience sont néanmoins robustes et les modèles *Logit* estimés ne contredisent pas les résultats des modèles *Probit* présentés dans la section 3.

2.1. Estimation d'un modèle *Probit* avec effet aléatoire

Dans le cas d'un modèle à effet aléatoire, la variable spécifique aux individus (U_i) est considérée comme aléatoire. On observe $y_{i\,t}$ selon la règle :

$$y_{it} = \begin{cases} 1 \;\; si \;\; y_{it}^* > 0 \\ 0 \;\; si \;\; y_{it}^* \leq 0 \end{cases}$$

Avec $y^*_{it} = \alpha + \beta' x_{it} + U_i + \varepsilon_{it}$, une variable latente non observée.

Le terme aléatoire $w_{it} = U_i + \varepsilon_{it}$ est supposé distribué selon une loi normale d'espérance nulle. On a :

$$prob(y_{it} = 1) = prob(\varepsilon_{i\,t} > -\alpha - \beta' x_{it} - U_i)$$

$$= prob\left(\tilde{\varepsilon}_{i\,t} > -\tilde{\alpha} - \tilde{\beta}' x_{it} - \left(\frac{\rho}{1-\rho}\right)^{1/2} \tilde{U}_i\right)$$

avec $\tilde{\varepsilon}_{it} = \dfrac{\varepsilon_{it}}{\sigma_\varepsilon}$, $\tilde{\alpha} = \dfrac{\alpha}{\sigma_\varepsilon}$, $\tilde{\beta} = \dfrac{\beta}{\sigma_\varepsilon}$, $\tilde{U}_i = \dfrac{U_i}{\sigma_u}$ et $\rho = \dfrac{\sigma_U^2}{\sigma_U^2 + \sigma_\varepsilon^2}$. ρ mesure la part de la variance due à l'effet individuel dans la variance totale du terme d'erreur.

On a donc :

$$prob(y_{it} = 1) = \Phi\left(\tilde{\alpha} + \tilde{\beta}' x_{it} + \left(\frac{\rho}{1-\rho}\right)^{1/2} \tilde{U}_i\right)$$

Puisque $prob(y_{it} = 0) = \Phi\left(-\left(\tilde{\alpha} + \tilde{\beta}' x_{it} + \left(\frac{\rho}{1-\rho}\right)^{1/2} \tilde{U}_i\right)\right)$, dans le cas général avec d_t

valant soit 0 soit 1 :

$$prob(y_{it} = d_{it}) = \Phi\left(\left(\tilde{\alpha} + \tilde{\beta}' x_{it} + \left(\frac{\rho}{1-\rho}\right)^{1/2} \tilde{U}_i\right)(2d_{it} - 1)\right)$$

On remarque, de plus, que conditionnellement à $\tilde{U}_i$, le terme d'erreur $\tilde{\varepsilon}_{it} + \left(\frac{\rho}{1-\rho}\right)^{1/2} \tilde{U}_i$ suit une loi normale de moyenne $\left(\frac{\rho}{1-\rho}\right)^{1/2} \tilde{U}_i$ et de variance unitaire. En conditionnant par rapport à $\tilde{U}_i$ (Heckman, 1981), la probabilité que la séquence observée $y_i = (y_{i\,1} \dots y_{i\,T})$ soit égale à une séquence particulière $d = (d_1 \dots d_T)$ est

$$prob(y_i = d) = \int_{-\infty}^{\infty} \prod_{t=1}^{T} \Phi\left(\left(\tilde{\alpha} + \tilde{\beta}' x_{it}\right)(2d_t - 1) / \tilde{U}_i\right) \varphi(\tilde{U}_i) d\tilde{U}_i \qquad (1)$$

$\Phi(\,/\,\tilde{U}_i)$ est la fonction de répartition d'une loi normale d'espérance $\left(\frac{\rho}{1-\rho}\right)^{1/2} \tilde{U}_i$ et de variance unitaire. On suppose que $\tilde{U}_i$ suit une loi normale centrée et réduite.

Pour les évaluations des fonctions de répartition des lois normales, il existe des approximations performantes. En revanche, l'intégration par rapport à $\tilde{U}_i$ nécessite l'utilisation de méthodes particulières. Afin d'optimiser ce calcul, Butler et Moffitt (1982) proposent l'utilisation de la méthode de la quadrature Gaussienne, qui se base sur la formule d'intégration Hermitienne :

$$\int_{-\infty}^{\infty} \exp(-z^2) g(z) dz = \sum_{j=1}^{G} w_j \, g(z_j)$$

Ici $g(z)$ correspond à $\prod_{t=1}^{T} \Phi\left(\left(\tilde{\alpha} + \tilde{\beta}' x_{it}\right)(2d_t - 1) / \tilde{U}_i\right)$ qui est une fonction de $z = \tilde{U}_i$.

La fonction $\exp(-z^2)$ est proportionnelle à l'expression de la loi normale centrée réduite en $\tilde{U}_i$. La formule d'intégration s'applique donc.

Cette méthode consiste donc à évaluer l'intégrale à partir de la somme pondérée de la fonction g évaluée en un nombre réduit de points. Butler et Moffitt (1982) montrent, sur un exemple, une relative stabilité des résultats avec un nombre réduit de points d'évaluations (cinq au maximum).

La fonction de log-vraisemblance retenue pour les modèles *Probit* estimés est basée sur l'expression (1). Soit $1(y_i = d)$ la variable indicatrice valant 1 si l'observation du vecteur des variables dépendantes pour l'individu i est égale à une séquence particulière d, et 0 sinon. Soit D l'ensemble des séquences d possibles :

$$D = \left\{ d = (d_1, d_2, \dots, d_T) \ / \ d_t \in \{0,1\} \ \forall t : 1 \dots T \right\}$$

La fonction de log-vraisemblance s'écrit :

$$LogL = \sum_{i=1}^{N} \log\left(\sum_{d \in D} prob(y_i = d) 1(y_i = d) \right)$$

3. LES DÉTERMINANTS INDIVIDUELS DE LA DÉTENTION D'UN EMPLOI

Dans l'explication de la détention d'un emploi, pour les jeunes entrés récemment dans la vie active sans le baccalauréat général, la part prépondérante repose-t-elle plutôt sur les caractéristiques des individus à leur sortie du système éducatif ou sur l'expérience qu'ils acquièrent sur le marché du travail ? Pour répondre à cette question, deux définitions alternatives de l'emploi sont retenues et deux ensembles de variables explicatives utilisées simultanément sont construits.

3.1. Échantillons et variables

Les échantillons, un par genre, retenus pour les applications empiriques sont constitués d'individus sortis de l'enseignement secondaire ou d'un Centre de formation d'apprentis en 1989 à un niveau de formation inférieur à celui du baccalauréat général. Ils sont interrogés cinq fois entre 1990 et 1995 (*cf.* annexe). Sont exclues de l'analyse les personnes qui déclarent être "aide familiale" ou "travailleur indépendant" à au moins l'une des cinq dates d'interrogations. Les deux échantillons sont constitués, respectivement, de 963 femmes et 1 029 hommes.

Deux variables dépendantes alternatives pour définir l'emploi
Les travaux rapportés ici recourent à deux définitions de l'emploi pour conduire les estimations. Le tableau 2 présente les résultats de l'estimation d'un modèle *Probit* où la variable dépendante est le fait de détenir ou non un CDI. Le tableau 3 utilise une autre définition de l'emploi qui réunit CDI, CDD et intérim. La première définition renvoie à une définition restrictive de l'emploi. La seconde correspond à l'emploi dit "ordinaire".

Une première série de variables explicatives : les conditions initiales
Les conditions initiales sont appréhendées par l'âge, la spécialité de formation et le croisement entre le niveau de qualification et les diplômes obtenus.
L'âge est mesuré, en mois, à la date de chacune des cinq interrogations.
La spécialité de formation est regroupée en trois postes :
- formation très générale (codes 42 à 48 de la nomenclature numérique en 48 postes),
- secteur tertiaire (code 26 à 41),
- secteur industriel (1 à 25).
Le niveau de formation et le diplôme sont croisés. Cinq variables indicatrices sont ainsi construites :
- être de niveau du baccalauréat et détenir un diplôme (BEP, CAP ou baccalauréat),
- être de niveau du baccalauréat mais sans aucun diplôme,
- avoir un BEP ou un CAP,
- être de niveau du BEP ou du CAP mais sans le diplôme,
- être sans aucun diplôme et ne pas avoir atteint le niveau du CAP ou du BEP.

Une deuxième série de variables explicatives : l'expérience passée sur le marché du travail
L'expérience sur le marché du travail est résumée par les durées cumulées dans les différents états possibles et par le nombre d'épisodes, connus par les individus, de ces mêmes états.
Par épisode, on désigne une période pendant laquelle un individu est dans une catégorie donnée : on ne distingue pas un changement de situation professionnelle si un individu connaît deux états similaires sans transition par un autre état. Par exemple,

l'enchaînement de deux contrats emploi solidarité (CES), sans passage par le chômage par exemple, sera comptabilisé comme un seul épisode de CES.

Toujours pour expliquer la probabilité d'avoir un emploi, des regroupements entre les états passés ont été effectués :

- la première catégorie contient les emplois supposés stables (CDI et engagé militaire),

- la seconde catégorie est constituée d'emplois plus précaires (CDD et intérim),

- la troisième catégorie correspond aux mesures publiques d'aide à l'insertion des jeunes destinées au secteur marchand (apprentissage, stage d'initiation à la vie professionnelle -SIVP-, contrats d'adaptation et de qualification, autres stages),

- la quatrième catégorie regroupe les mesures du secteur non marchand (travaux d'utilité collective -TUC-, contrat emploi solidarité -CES-).

Enfin, dans le passé des jeunes, sont aussi distingués :

- le chômage (catégorie 5),

- l'inactivité (catégorie 6).

Deux variables sont construites pour chacune de ces six catégories :

- le nombre de mois pendant lequel l'individu a connu un état de la catégorie, en cumulant les mois sur l'ensemble de la période considérée[12] ;

- le nombre d'épisodes de cette catégorie.

Ces variables présentent parfois des corrélations linéaires importantes entre elles. Cela s'explique par le fait que les individus n'ayant connu aucun épisode d'une catégorie donnée, ont aussi une durée cumulée nulle pour cette catégorie.

Les durées cumulées qui présentaient un coefficient de corrélation supérieur à 0.7 avec le nombre d'épisodes correspondants[13] ont été éliminées des estimations.

Le tableau 1 présente les moyennes et écarts types de l'ensemble des variables utilisées dans l'analyse.

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[12] C'est-à-dire depuis la sortie de formation initiale jusqu'à la date de la première interrogation, puis de la sortie jusqu'à la seconde, etc.

[13] Lorsqu'elle existe, la corrélation entre nombre d'épisodes et durée cumulée dans un état n'est pas plus nette en début de carrière que sur toute la période.

Tableau 1
Moyennes et écarts types des variables explicatives*

	Femme		Homme	
	moyenne	écart-type	moyenne	écart-type
Age à la date d'interrogation	22.25 ans	2.03 ans	22.3 ans	2.12 ans
Spécialité de formation :				
tertiaire (réf.)	0.5587	0.4966	0.2575	0.4373
industriel	0.2638	0.4407	0.5559	0.4969
connaissance générale	0.1776	0.3822	0.1866	0.3896
Niveau et diplôme :				
sans diplôme, niveau V-V bis (ref.)	0.1371	0.3440	0.1884	0.3910
niveau Bac et diplôme	0.1516	0.3587	0.1944	0.3956
niveau Bac sans diplôme	0.0218	0.1461	0.0360	0.1862
niveau BEP/CAP et diplôme	0.5057	0.5000	0.3761	0.4845
niveau BEP/CAP sans diplôme	0.1838	0.3874	0.2051	0.4034
Nombre d'épisodes :				
1 CDI (catégorie 1)	0.1483	0.3554	0.2151	0.4038
2 ou plus CDI (catégorie 1)	0.0216	0.1454	0.0340	0.1823
1 emploi précaire (catégorie 2)	0.3493	0.4768	0.3646	0.4814
2 ou plus emplois précaires (catégorie 2)	0.2195	0.4140	0.2686	0.4433
1 mesure marchande (catégorie 3)	0.2019	0.4014	0.1876	0.3904
2 ou plus mes. marchandes (catégorie 3)	0.0559	0.2297	0.0521	0.2222
1 mesure non marchande (catégorie 4)	0.2372	0.4254	0.1022	0.3030
2 ou plus mesures non marchandes (cat. 4)	0.0611	0.2395	0.0155	0.1237
1 épisode de chômage (catégorie 5)	0.3485	0.4765	0.2842	0.4511
2 ou plus épisodes de chômage (cat. 5)	0.3327	0.4712	0.2830	0.4505
1 épisode d'inactivité (catégorie 6)	0.3643	0.4813	0.3815	0.4858
2 ou plus épisodes d'inactivité (cat. 6)	0.0744	0.2624	0.0805	0.2720
Durée cumulée :				
précaire (catégorie 2)	6.2312	8.7084	6.7368	8.3637
chômage (catégorie 5)	7.3624	9.3900	-	-
inactivité (catégorie 6)	1.7944	3.8977	1.3396	2.0351

* Il s'agit de moyennes et de variances totales. Par exemple, pour le nombre moyen d'épisodes en emploi stable, on calcule ce nombre moyen (moyenne intra groupe) de la sortie à la première interrogation, puis de la sortie à la seconde, etc. On fait ensuite la moyenne sur les 5 valeurs obtenues. Les variables décrivant les conditions initiales ne changeant pas au cours temps, à l'exception de l'âge à la date de l'enquête, les moyennes données pour ces variables correspondent donc aux moyennes dans un échantillon en coupe.

3.2. Des conditions initiales déterminantes

On estime deux modèles *Probit*, avec effet aléatoire, ayant pour variables dépendantes le fait d'être en emploi selon les deux définitions considérées (CDI ou emploi ordinaire). Les variables explicatives sont identiques pour les deux modèles mais différentes par genre. Pour les hommes, en effet, la durée cumulée au chômage a été supprimée en raison d'une forte corrélation avec le nombre d'épisodes de chômage. Un test de la nullité de la variance du terme aléatoire spécifique aux individus, constant dans le temps, est effectué. Le rejet de cette hypothèse conduit à privilégier l'existence effective d'un effet aléatoire dans le modèle *Probit*.

Tableau 2

Modèles *Probit* sur la détention d'un emploi sous CDI

	Femme (N=963)			Homme (N=1029)		
Effet aléatoire	oui			oui		
	paramètre	t	eff marg (%)	paramètre	t	eff marg (%)
Constante	-3.654	-4.017	-	-4.303	-4.260	-
Age à la date d'interrogation	-0.001*	-0.267	-0.4	0.009[1]	2.160	4.2
Spécialité de formation :						
tertiaire	réf.	réf.	réf.	réf.	réf.	réf.
industriel	-0.157*	-1.297	-5.5	0.486	3.921	18.7
connaissance générale	-0.619	-3.448	-18.5	-0.377*	-1.883	-12.0
Niveau et diplôme :						
sans diplôme, niveau V-Vbis	réf.	réf.	réf.	réf.	réf.	réf.
niveau Bac et diplôme	2.955	10.484	69.6[2]	1.024	4.094	37.7
niveau Bac sans diplôme	2.364	5.965	47.0	1.052	2.711	38.7
niveau BEP/CAP et diplôme	2.261	10.479	42.9	0.700	3.573	24.8
niveau BEP/CAP ss diplôme	1.015	4.714	7.2	0.130*	0.673	3.9
Nombre d'épisodes :						
1 CDI	-3.447	-23.084	-52.3	-2.251	-19.174	-60.1
2 ou + CDI	-6.381	-20.374	-52.3	-3.573	-18.176	-62.8
1 emploi précaire	1.165	10.558	34.8	0.226	2.376	8.2
2 ou + emplois précaires	1.413	9.534	44.6	0.737	5.225	28.3
1 mesure marchande	0.279	2.554	9.6	-0.310	-3.183	-11.7
2 ou + mes. marchandes	0.472	2.268	16.0	-0.842	-4.989	-27.6
1 mesure non marchande	-0.688	-5.904	-21.0	-0.905	-5.667	-29.3
2 ou + mes. non marchandes	-0.919	-5.192	-25.7	-1.733	-4.982	-40.8
1 épisode de chômage	-0.637	-5.743	-23.1	-0.956	-10.907	-36.7
2 ou + épis. de chômage	-0.866	-6.186	-29.6	-1.520	-14.693	-52.8
1 épisode d'inactivité	-0.168*	-1.620	-5.5	0.036*	0.287	1.4
2 ou + épis. d'inactivité	0.024*	0.135	0.8	-0.667	-2.961	-22.3
Durée cumulée :						
précaire	0.060	9.798	27.4	0.016	2.661	7.5
chômage	-0.017	-2.854	-6.4	-	-	-
inactivité	-0.027	-2.402	-9.7	-0.063*	-1.852	-24.0
seconde interrogation	1.496	10.180	11.4	1.607	14.029	19.7
troisième interrogation	2.325	12.188	35.7	2.458	14.732	50.2
quatrième interrogation	3.001	12.794	62.2	3.043	13.729	72.2
cinquième interrogation	3.624	12.277	82.4	3.667	13.561	88.4
ρ	0.880	26.762	-	0.792	19.524	-
Log-vraisemblance		-1822			-2217	

* variable non significative au seuil de 5 %.

[1] Par exemple, être plus âgé correspond à une probabilité plus forte d'avoir un CDI.

[2] Par exemple, être bachelière plutôt que non diplômée implique une augmentation de la probabilité de détenir un CDI de 69 points, les autres variables explicatives étant prises à leur moyenne dans l'échantillon.

Tableau 3
Modèles *Probit* sur la détention d'un emploi ordinaire
(CDI, CDD et intérim)

	Femme (N=963)			Homme (N=1029)		
Effet aléatoire	oui			oui		
	paramètre	t	eff marg (%)	paramètre	t	eff marg (%)
Constante	-2.094	2.538	-	-3.429	-3.799	-
Age à la date d'interrogation	0.003*	0.796	1.3	0.011[1]	2.719	3.7
Spécialité de formation :						
tertiaire	réf.	réf.	réf.	réf.	réf.	réf.
industriel	-0.617	-5.758	-22.5	0.446	3.929	12.9
connaissance générale	-0.817	-5.531	-30.5	-0.232*	-1.320	-8.3
Niveau et diplôme :						
sans diplôme, niveau V-V bis	réf.	réf.	réf.	réf.	réf.	réf.
niveau Bac et diplôme	3.019	11.714	83.3[2]	1.139	4.702	37.4
niveau Bac sans diplôme	1.049	2.569	34.9	0.879	2.468	31.1
niveau BEP/CAP et diplôme	1.832	9.848	63.4	1.156	6.026	37.7
niveau BEP/CAP ss diplôme	0.293*	1.627	7.6	0.457	2.657	17.7
Nombre d'épisodes :						
1 CDI	-2.061	-19.625	-68.0	-1.349	-14.098	-45.6
2 ou + CDI	-3.243	-16.540	-77.0	-2.122	-12.243	-71.0
1 emploi précaire	0.190	2.261	7.0	-0.154	-1.985	-4.6
2 ou + emplois précaires	0.041*	0.344	1.5	0.017*	0.149	0.5
1 mesure marchande	0.555	6.228	19.0	-0.239	-3.019	-7.2
2 ou + mes. marchandes	0.188*	1.394	7.0	-0.778	-5.617	-27.2
1 mesure non marchande	-0.400	-4.504	-15.0	-0.793	-7.062	-27.6
2 ou + mes. non marchandes	-0.867	-5.923	-33.4	-1.622	-6.414	-58.1
1 épisode de chômage	-0.029*	-0.310	-1.1	-0.199	-2.642	-5.7
2 ou + épis. de chômage	0.380	3.024	13.6	-0.292	-3.180	-8.7
1 épisode d'inactivité	-0.121*	-1.298	-4.6	0.067*	0.640	1.9
2 ou + épis. d'inactivité	0.392	2.542	25.9	-0.145*	-0.823	-4.6
Durée cumulée :						
précaire	-0.062	-11.064	-29.0	-0.065	-11.332	-28.3
chômage	-0.019	-4.121	-40.0	-	-	-
inactivité	-0.011*	-0.916	-9.3	-0.063	-2.548	-27.3
seconde interrogation	0.859	7.245	30.3	1.126	11.963	42.0
troisième interrogation	1.3837	9.625	50.4	1.771	12.678	62.0
quatrième interrogation	1.826	9.181	63.8	2.076	11.016	68.1
cinquième interrogation	2.218	9.051	71.9	2.668	11.163	74.6
ρ	0.813	23.698		0.598	11.958	
Log-vraisemblance	-2232.21			-2444.22		

* variable non significative au seuil de 5 %.

[1] Par exemple, être plus âgé correspond à une probabilité plus forte d'avoir un CDI.

[2] Par exemple, être bachelière plutôt que non diplômée implique une augmentation de la probabilité de détenir un CDI de 83 points, les autres variables explicatives étant prises à leur moyenne dans l'échantillon.

Les conditions initiales

Les variables caractérisant l'acquis sur le marché du travail ont un rôle important mais celles représentant les conditions initiales ne peuvent pas être écartées (voir graphique 3 pour une illustration). La spécialité de formation, le niveau de formation et de diplôme influencent significativement la probabilité de détention d'un emploi.

Les conditions initiales ont, relativement aux variables d'acquis sur le marché du travail, plus d'influence pour les femmes que pour les hommes. La spécialité de formation "connaissance générale" est ainsi fortement défavorable à la détention d'un emploi, pour les femmes, alors que la spécialité "industrielle" a un effet positif mais plus faible, pour les hommes. Etre diplômé(e) et du niveau du baccalauréat favorise la détention d'un emploi, quelle que soit la définition retenue, et plus fortement pour les femmes que pour les hommes. Plus généralement, la logique de niveau est prépondérante pour l'obtention d'un CDI ; la logique de diplôme l'emporte pour un CDD.

L'acquis sur le marché du travail

On peut noter les coefficients négatifs associés à un ou plusieurs passages en CDI avant la date d'interrogation. Ceci s'explique par le fait qu'une personne ayant connu un CDI avant la date d'interrogation, a forcément perdu cet emploi[14]. On repère ici l'absence de mobilité externe ascendante pour laquelle la fin d'un CDI peut être le résultat d'un comportement stratégique de la part des employés. Pour la population concernée par cette étude (les jeunes sans baccalauréat général en début de vie active), la fin d'un CDI, dans la majorité des cas, est un événement subi plutôt que choisi.

Pour les femmes, les paramètres associés à un passé en emploi précaire (CDD ou intérim) sont positifs. Un passage par un emploi précaire, *a fortiori* plusieurs, est un tremplin pour accéder à un CDI ou, à un degré moindre, à un emploi ordinaire. Le qualificatif de précaire utilisé pour les CDD est donc partiellement usurpé. Pour les hommes, on obtient un résultat similaire pour la détention d'un CDI. En revanche, enchaîner les CDD est moins courant pour les hommes. On retiendra que les CDD améliorent dans tous les cas la probabilité de détention d'un CDI.

Le rôle du temps

Les variables indicatrices de la date d'interrogation ont toujours un effet positif croissant. On a bien une amélioration de la probabilité de détention d'emploi avec l'avancement dans le temps puisque l'âge à la date d'interrogation est contrôlé. On ne mesure donc pas un effet d'âge. En revanche, la date d'interrogation peut renvoyer à une forme d'expérience, autre que celle capturée par les variables d'acquis utilisées, qui peut diriger les jeunes vers des employeurs correspondant à un meilleur appariement. Elle peut aussi renvoyer à l'évolution de la conjoncture.

Dans le contexte de ce travail qui réconcilie l'usage de variables de conditions initiales et de variables longitudinales d'acquis, l'effet global de l'avancement dans le temps n'est pas clair pour autant. En effet, le temps s'écoulant, le passage par certains états peut renforcer ou contrecarrer cet effet positif des variables de la date d'interrogation.

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[14] Toutes les variables mesurant le passé sur le marché du travail ne contiennent pas l'épisode en cours à la date d'interrogation.

Graphique 3 - Avoir un CDI pour les femmes
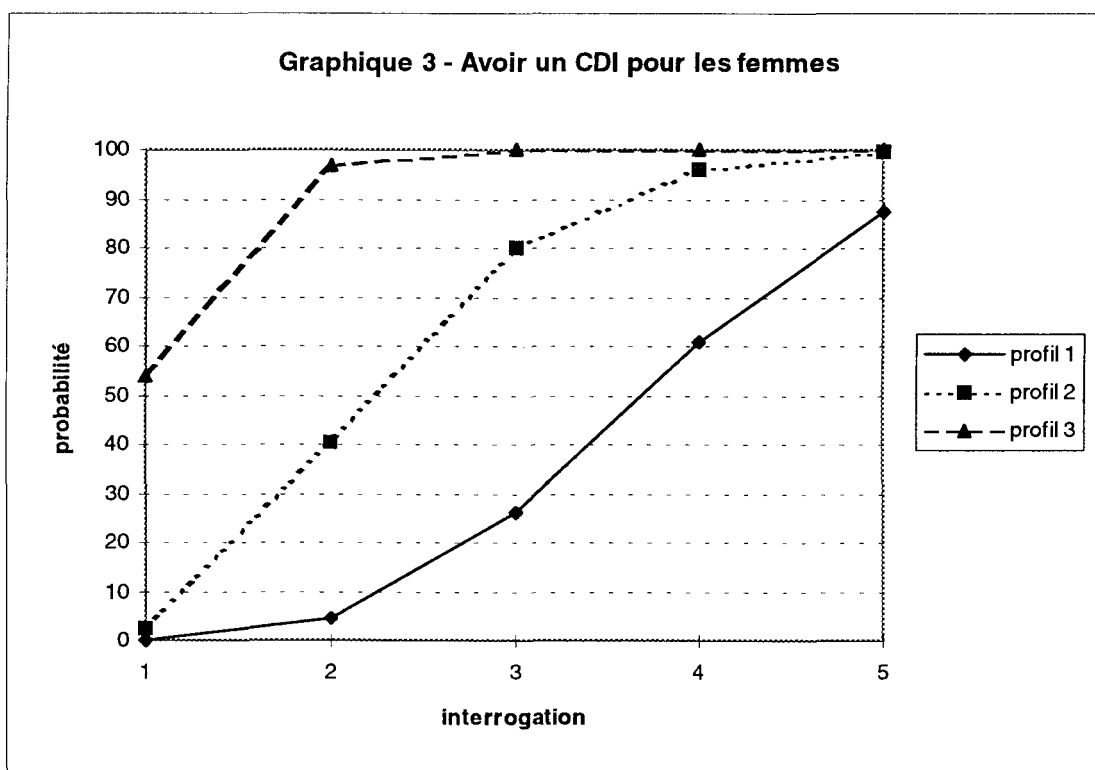
Note : les probabilités sont calculées pour des femmes, de 19 ans à la sortie de formation initiale, n'ayant connu que des épisodes de CDD et de chômage, en quantité identique.
Le profil 1 décrit des femmes non diplômées n'ayant pas atteint le niveau du BEP-CAP avec une spécialité connaissance générale.
Le profil 2 décrit des femmes sans aucun diplôme, de niveau BEP-CAP ayant une spécialité industrielle.
Le profil 3 décrit des femmes de niveau baccalauréat ayant un diplôme de niveau V et/ou IV avec une spécialité tertiaire.

REMARQUES ET PERSPECTIVES

Les tests pratiqués révèlent la présence systématique d'un effet individuel aléatoire. La variance de cet effet occupe une part importante de la variance totale du terme d'erreur (au minimum 59.8 %). Goux et Maurin (1995), avec un modèle à effet fixe sur la détermination des salaires sectoriels, et Lollivier (1995), avec un modèle *Probit* à effet aléatoire sur l'activité des femmes mariées, trouvent aussi, dans des contextes différents, des effets individuels importants.

Ici, l'hétérogénéité individuelle est toujours plus forte pour les femmes que pour les hommes et plus importante pour la détention d'un CDI que d'un emploi ordinaire. La méthode autorise le contrôle de l'hétérogénéité non observée mais elle ne permet pas de produire des éléments d'analyse sur la nature des informations absentes. Ainsi, ces omissions ont un effet plus fort pour l'estimation des modèles concernant les femmes ou ceux décrivant la détention d'un CDI : dans ces deux cas, une meilleure spécification du modèle serait particulièrement souhaitable.

Les estimations *Probit*, avec un effet aléatoire, réalisées sur la probabilité de détenir un emploi mettent donc en lumière certains aspects de la mobilité professionnelle des jeunes. Tout d'abord, il semble qu'il existe un effet de découragement lié à la perte d'un

CDI. La détention d'un CDD par le passé est propre à favoriser l'accession en emploi stable.

Les variables de conditions initiales, le niveau et le diplôme surtout, et la spécialité de formation ne peuvent pas être écartées au profit des variables d'acquis, dans l'explication de la détention d'emploi. Ainsi la méthode d'estimation sur données de panel avec contrôle de l'hétérogénéité individuelle, permet des conclusions plus fines sur l'opposition entre conditions initiales et acquis sur le marché du travail, le second aspect n'éludant apparemment pas le premier. Il reste sans doute à établir la nature de la causalité entre ces deux ensembles de variables pour éclaircir davantage le mécanisme de l'insertion des jeunes.

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ANNEXE

Source : Le panel téléphonique du Céreq

Le panel téléphonique du Céreq comporte cinq vagues. Les jeunes sortent de l'enseignement secondaire, d'une section d'enseignement spécialisé (SES) ou d'un centre de formation d'apprentis (CFA) à la fin de l'année scolaire 1988-1989, au mois de juin pour la plupart d'entre eux. Ils sont interrogés tous les mois de décembre entre 1990 et 1993 et au début de l'année 1995 (janvier - février). Environ vingt pour cent des individus sont perdus entre chaque vague (tableau 4).

Les échantillons des deuxième et troisième vagues ayant été construits à partir des répondants à la vague immédiatement précédente (respectivement donc les première et deuxième vagues), et malgré une pondération calée sur l'échantillon de départ, le problème de l'appauvrissement du fichier devenait crucial. Les échantillons des quatrième et cinquième vagues ont donc été construits à partir de l'ensemble des répondants à la vague immédiatement précédente et d'un échantillon tiré dans l'ensemble des non répondants de toutes les vagues précédentes (voir le tableau 4 pour des chiffres précis). La discussion sur le fait de savoir s'il faut utiliser un échantillon cylindré ou pas est donc sans objet. La méthode de collecte n'est en effet pas homogène tout au long du suivi puisqu'un individu perdu n'est plus contacté jusqu'à la troisième vague et qu'ensuite, pour rétablir la représentativité, un échantillon de non répondants aux trois premières vagues a été interrogé.

L'échantillon utilisé est donc celui collecté à la cinquième vague et qui contient les personnes interrogées cinq fois consécutivement et les personnes perdues à différents stades et retrouvées à la quatrième ou cinquième vague. Il n'y a guère de possibilités de construire différemment l'échantillon sauf à réduire la fenêtre d'observation, ce qui est en contradiction avec la méthode utilisée et la problématique adoptée.

Il est difficile d'exposer ici l'ensemble des spécificités de l'échantillon des non répondants. Le résultat le plus visible, et le moins surprenant sans doute, est le phénomène de perte de mémoire : les historiques reconstitués par les enquêtes quatre à cinq ans après leur sortie de la formation initiale sont beaucoup plus lisses. Les petites périodes sont gommées. On pourra consulter Werquin (1995) pour un exposé des caractéristiques comparées des répondants et non répondants.

Tableau 4

Nombre de répondants aux différentes vagues du panel téléphonique du Céreq

Dates des interrogations

	1ère vague	2ème vague	3ème vague	4ème vague	5ème vague
	décembre 1990 (à 18 mois)	décembre 1991 (à 30 mois)	décembre 1992 (à 42 mois)	décembre 1993 (à 54 mois)	février 1995 (à 68 mois)
Total interrogés	**5777**	**4257**	**3083**	**3453**	**3198**
dont répondants à la vague précédente	5777	4257	3083	2453	2513
dont non répondants à la vague précédente	0	0	0	1000	685
Total réalisés	**4257 (80,7 %)**	**3083 (72,8 %)**	**2453 (79,1 %)**	**2513**	**2321**
dont entretiens réalisés parmi les répondants de la vague précédente	4257 (80.7 %) 370 récupérés* (7 %)	3083	2453	1988	2028
dont entretiens réalisés parmi les non répondants à cette vague	0	0	0	525	293

* les entretiens récupérés concernent les enquêtés absents pour lesquels des proches ont indiqué la situation à la date de l'enquête. Ils ont été incorporés dans l'échantillon de la deuxième vague en décembre 1991.

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QUALITY FRAMES FOR A EUROPEAN SURVEY
A NEW APPROACH TO MODELLING TRANSITIONS IN YOUTH?

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Abstract

In 1994 the ESF working group on the construction of a cross-national dataset on transitions from secondary education gave a report on the conceptual and practical issues arising from trying to construct such a dataset from existing sources. The paper identified the impact of different institutional structures and legal frameworks on both the experiences of the survey respondents and the methodology used to collect data on those experiences.

This paper will describe how the work of that group has been taken forward in a European Fourth Framework Programme research project, *IDARESA* (Integrated Documentation and Retrieval Environment for Statistical Aggregates). Furthermore, it describes how we hope to use advances in formal methods of describing statistical data to aid the further development of a conceptual framework for cross-national data in this area.

IDARESA aims to develop a statistical information system which will hold a rich set of metadata (background information) that will describe the characteristics of dataset variables. This background information is needed to enable the users of the data to interpret it correctly. The system will make use of an access mechanism which allows the user to issue his/her commands in a normal, understandable manner (natural language interface).

Central to the approach of *IDARESA* is the Quality Frame. This is a formal definition of the variables in an idealised dataset. Variables from actual datasets are mapped to this Quality Frame, and the coding transformation rigorously defined. The software will then enable users to interact with the datasets using the terminology of the Quality Frame.

School leavers surveys from Scotland and the Netherlands are being used as a test application in the project. The paper will describe how we have built on our earlier experiences to put the survey descriptions and institutional differences into the formal framework supplied by *IDARESA*, and the insights the process has given us.

Résumé

"Cadres de qualité" pour une enquête européenne sur l'insertion des jeunes

En 1994 l'équipe de l'ESF qui avait élaboré une base de données comparatives sur l'insertion des jeunes a présenté un rapport sur les problèmes théoriques et pratiques posés par l'élaboration d'une base de données constituée à partir des sources existantes. Cet article vise à identifier l'impact des structures institutionnelles et du cadre législatif sur les expériences des répondants et la méthodologie employée dans la collecte de ces données.

L'article décrit la progression des travaux et leur contribution à un projet de recherche du quatrième programme cadre européen. Nous proposons une application des méthodes formelles les plus récentes permettant de décrire des données statistiques afin de construire un cadre conceptuel adapté à des univers nationaux différents.

Le projet *IDARESA* (Integrated Documentation and Retrieval Environment for Statistical Aggregates = Système documentaire intégré et cadre de restitution pour données statistiques agrégées) a pour but de développer un système d'informations statistiques contenant un vaste ensemble de meta-données permettant de décrire les caractéristiques des variables d'une série donnée. Un thesaurus permettra aux utilisateurs d'accéder aisément à ces meta-données.

Le "Quality Frame" est un outil central dans cette approche ; il consiste à produire une définition formelle des variables dans ce que pourrait être une base de données "idéale". Les variables réelles sont projetées sur le "Quality Frame" et des règles de transformations rigoureuses sont énoncées. Le programme permet ensuite à l'utilisateur de naviguer entre les séries réelles et les séries virtuelles.

Des enquêtes de sortie du système scolaire en Écosse et aux Pays Bas ont servi de base d'application à cette recherche. Cet article montre comment l'expérience accumulée précédemment nous a servi pour documenter les enquêtes et prendre en compte les différences institutionnelles dans le cadre formel fourni par *IDARESA*. Il débouche sur les perspectives offertes par une telle démarche.

1. INTRODUCTION

1.1 The Working group of the ESF Network

The long-term goal of the European Science Foundation (ESF) Network on the Transitions in Youth Network is "to advance theoretical understanding of transitions in youth, and especially of the relationships between education/training and the labour market, through the comparative analysis of regular and longitudinal surveys of transitions". To this end, in 1994, a working group was set up to take a close look at the possibility of building an integrated dataset of comparative data on the labour market entry of school leavers. At the Network workshop of that year, the Centre for Educational Sociology (CES) and DESAN (Data Entry and Statistical Analyses) presented a paper together with the Economic and Social Research Institute (ESRI) of Ireland describing the experiences in building a very small dataset for these three countries (Scotland, the Netherlands and Ireland), (Hannan et *al.,* 1994). The discussions we had over the formation of the combined variables provided a valuable insight into the problems of constructing comparative datasets. In particular it highlighted the differences between the Scottish and the Dutch education and training systems. Further discussions between CES and DESAN led to their collaboration in a European Union Fourth Framework Esprit programme called *IDARESA*.

The *IDARESA* project started in January 1996 and runs for two and a half years. In *IDARESA* we are trying to develop ways that permit better documentation of data by directly linking metadata (background information) to variables. There are three basic elements to the project:
- a structured way of describing survey data and its background;
- a technology which links together databases held at different sites (distributed databases);
- an access mechanism which allows the user to issue his/her commands in a near-normal, understandable manner (a natural language user interface).

One of the test areas for the project will be School Leavers Surveys (SLS) and CES and DESAN will supply the structured survey descriptions for this area. The experience we had in building the three country dataset for 1994, and papers and presentations from the network workshops contribute to these survey descriptions. SLS data are complex and differ a lot between the countries, and this makes them a good example for testing in a project where the harmonisation of data is a core consideration. The paper that we present here is based on one of the first deliverables of the project.

1.2. Information Technology

Since the mid 1980s there have been significant developments in the area of statistics and IT, and *IDARESA* is part of that process. The world of official statistics has recognised the importance of research to its ability to meet the demands put on it. In 1989 the Council of Ministers formally approved the DOSES (Development of Statistical Expert Systems) research programme whose aim was "to carry out exploratory work to identify how official statistics could be helped by certain data processing techniques", (Y. Franchet, Director General of Eurostat, in Drappier, 1993). This was "...the first time there had been any talk of research in official statistics... There is no problem if you want to talk about research in micro electronics, but it is another matter when you want to do the same in official statistics", (D. Defays in Drappier, 1993).

More recently, Eurostat took responsibility for part of the Fourth Framework Esprit programme, with a number of projects under the name of DOSIS (Development of Statistical Information Systems). *IDARESA* is one of these projects. National Statistical Institutes (NSIs) and Eurostat are interested in projects which help them to deliver good quality data and information to their customers in a timely manner. To support this, they are interested in methods of linking datasets and data descriptions and improving harmonisation techniques. Eurostat is obviously interested in cross-national comparisons, but other countries can have similar problems in linking regional data.

The IT world is moving away from very large scale databases to more distributed databases. At the same time, there is a greater demand for cross-national longitudinal comparative research. We feel that it is extremely valuable to be able to manage the problems encountered in linking cross-national datasets (Hannan et *al.*, 1996) with the kind of research that is going on in *IDARESA* and with the outcomes it will produce.

The *IDARESA* proposal was developed by Statistisches Landesamt Berlin (StaLa) and the University of Vienna. StaLa had been developing the DUVA system in response to the evaluation of the 1987 census in Germany. Several large cities in Germany came together to develop a system which attempts to bring together information about data, and requires all the relevant data descriptions to be entered into the system before data can be used. The user can browse a list of key words to find the variables (s)he needs, and then construct tables in a spreadsheet-programme. DUVA addresses some of the problems confronting a statistical office, but it needs to be developed. Vienna had taken part in a DOSES project which developed a formal language for manipulating metadata. *IDARESA* brings these two approaches together and also builds on the distributed database expertise of the University of Ulster.

The outcome of the project will be a software system which allows users to work on the data irrespective of the physical location of the data. The user will communicate with the system using normal understandable language. This will enable him to conduct his enquiries referring to an "idealised dataset". The prototype system will be tested in two application areas: school leavers surveys and time-series in public financing of research and development. CES and DESAN will be working with the

Scottish and Dutch school leavers surveys (Brannen et *al.*, 1996), while the University of Athens will develop the time series application.

2 THE IDARESA APPROACH

2.1. Harmonised data

In order to work on data collected from different sources, the data must be made compatible or "harmonised". Let us take a simple example:

Suppose that the Scottish survey defines SEX to have values 1/male 2/female, and in the Dutch survey it is defined as 1/female 2/male. Then, in order to analyse a combined dataset, one of the variables must be recoded to produce a compatible variable.

Defining the best transformations for a set of incompatible variables gives a harmonised variable. However there are two approaches to harmonising data.

The European Union has defined a harmonised Labour Force Survey (LFS), in which all members of the EU conduct their own survey and then pass to Eurostat variables in an agreed format. Considerable effort has been put into defining the harmonised LFS, and work is still continuing. This might be termed a "top down" approach, where the harmonised variables are pre-defined: there is a fixed number of pre-defined indicators which all participants must calculate. The method of calculation and additional country specific variables are left to the individual country.

Figure 1
Top down and bottom up approaches
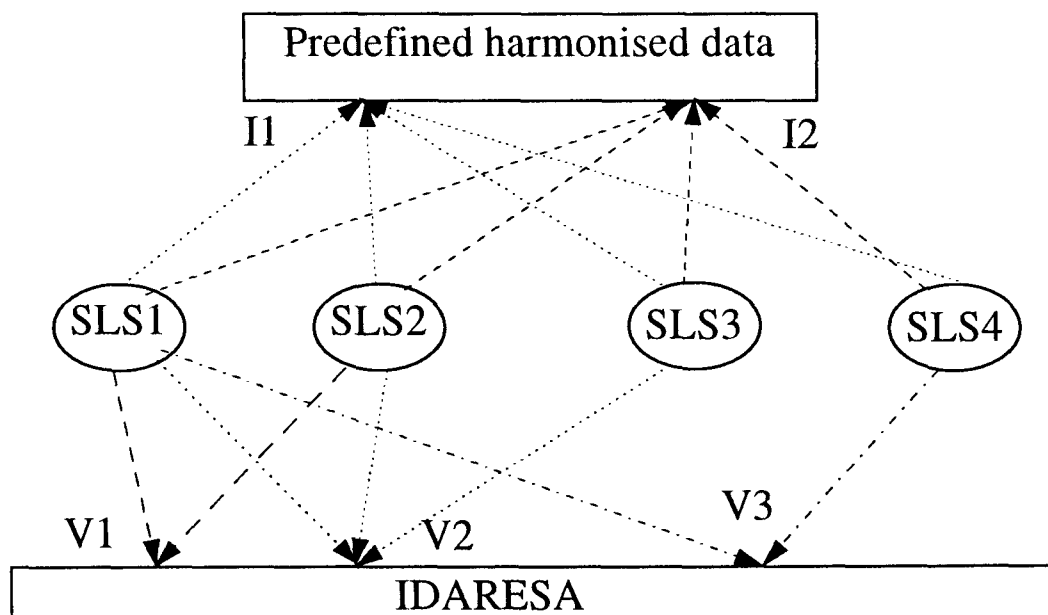
SLS: School Leaver Survey

By contrast, *IDARESA* permits a "bottom up" approach, in which each existing survey is "registered" in the system, and harmonisation does not take place until the moment of analysis. This allows a more dynamic system, where variables from a subset of countries may be combined if appropriate. Moreover, the methodology for creating the harmonised variable is registered in the *IDARESA* system.

Figure 1 illustrates the difference in the two approaches.

In the top down approach I1 and I2 represent two indicators in the harmonised data description. *All* of the surveys SLS1, SLS2, SLS3 and SLS4 must have data which correspond to these two indicators. By contrast, V1, V2 and V3 are variables in the *IDARESA* system, and we see that different SLSs contribute to each of the variables. It is evident that in order to conduct an analysis on a trans-European scale, key indicators must be identified and harmonised. However, the harmonisation is done at the *mapping stage* not at the survey design stage. More importantly, by describing the data at the finest possible level of detail, we do not exclude important analysis at an intermediate level. Let us take an example:

Suppose that in three surveys AGE is captured in 10 year bands (0-9, 10-19,...) and in all the other surveys it is captured in 5 year bands (0-4, 5-9, 10-14, ...). Then in a harmonised dataset we could only analyse the variable in 10 year bands, but in the *IDARESA* framework analysis by 5 year bands would be possible for all analysis that did not include these surveys.

In other words, if we accept only data which is comparable at a pan-European level, we are forced to consider the "lowest common denominator" and define only variables which can be interpreted for all countries of the Union. However, it is often valid and valuable to compare groups of countries within the larger framework, and we wish to use the same framework to do this. In other words we wish to conduct analysis which is sub-European, but at a supra-national level. Moreover, the formal specification developed for *IDARESA* allows us to use statistical algorithms which have been developed to deal with variables defined with different levels of detail (Scotney et *al.,* 1995).

The AGE example given above is a very simple example. Often in harmonised datasets, the background and the methodology used to harmonise the variables is not available. This can lead to misinterpretation of the data. We give some examples to illustrate the point.

- Looking at OECD tables, it was surprising to see that although the Netherlands is shown to have one of the highest participation rates in higher education (which is correct), the percentage of those having no qualification was also high compared to France, for example. A probable explanation of this is that France has a *brevet in education* (BECP) at age 14-15, and the Netherlands has no equivalent. Therefore, if one compares those who left the education system at the age of 16 it might well be that in the Netherlands some pupils will have no official (paper) qualifications, whilst in France they would have BECP. This does not mean that these school-leavers in the Netherlands are less qualified than those in France.

- Another example comes from the LFS data. It appears that in the Netherlands none of the parents of students in higher education have an agricultural occupation (Freysson, 1997). In practice however we know that this is not the case, especially when they take part in higher vocational agricultural education, where a majority of the parents are involved in agriculture. We do not have an explanation for this anomaly.

- A third example takes into account some subtle cultural and national differences. In a project comparing third level agricultural leavers from the Netherlands and France it became clear that, although a qualification from the French "École des ingénieurs" is normally regarded as a higher level than University level, because of their educational career and the way the system is set up, leavers from the École des ingénieurs agronomes form the only exception to this rule. They leave at a level just below University level. Hence, more or less by accident, this makes them comparable with the Dutch Agricultural HBO-leavers (Gimbrère, 1996).

In order to interpret harmonised data correctly, the definitions used in the original dataset and the methodology used to create the harmonised variable must be taken into account when analysing the data. *IDARESA* provides a means of doing this.

2.2. Quality Frames

We are now in a position to discuss the concept of "Quality Frames" in more detail. Quality Frames can be used as a "bottom up" approach to designing supra-national surveys, in that they can be based on existing surveys and include all the subtle differences that occur. Harmonisation takes place at the last possible moment.

Quality Frames consist of two types of variables: the "idealised" variables based on the variables of the actual existing datasets, which we term the Integrated Target Dataset (ITD), and the Indicators derived from them. Contributing to the ITD are national surveys, which are further subdivided by year and possibly by sub-samples of the population which have been targeted with different questionnaires.
Figure 2 illustrates this structure.

Figure 2
Quality Frames and actual datasets
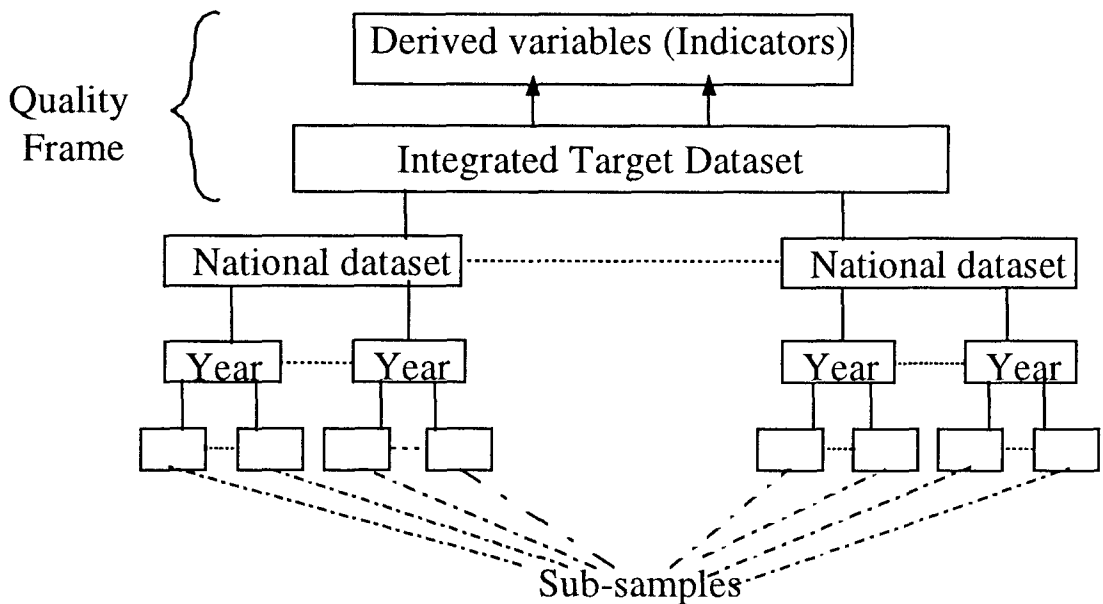
2.3. Harmonising data

We have said that *IDARESA* helps us to harmonise data. We have to consider what information is needed to enable the users of the data to interpret it correctly. This requires computerised documentation at three levels: the survey, the variables and the background context. It would be generally accepted that computerised documentation of the survey and variables are necessary in principle, even if not always delivered in practice, but the necessity for the background context is not always appreciated until cross-national comparisons are attempted. This identifies in a very acute form a need which is in fact there for all surveys. Moreover, the context of school leavers surveys highlights the problems extremely well, since the educational systems which form the context for these surveys have a major impact on the interpretation of data.

OECD has a number of publications which describe the structure of educational systems in various countries, for example (OECD, 1995). Even the most superficial glance at these publications highlights the differences in the systems. It is not just that the formal structures differ, the relevant items that influence the career of the school leaver are different in each country. Thus, for example, in Scotland the grade obtained is a factor that influences employers. In the Netherlands, the differentiation of the schooling system is important. Using an international classification system such as ISCED (International Standard Classification of Education) will incur a major loss of important information.

3. SCHOOL LEAVERS SURVEYS IN *IDARESA*

From our point of view, the *IDARESA* project offered an exciting opportunity to develop ideas that we had about formalising the description of national school leavers surveys with a view to cross-national comparison. However, we also had to give our IT colleagues good reasons why school leavers surveys would offer a good test application for their software. Once we had identified some of these issues, we started work on describing the surveys in a formal manner. This paper is presenting work based on the first deliverable of a 30 month project. This work will be integrated with work of the other partners to produce a working prototype at the end of the project.

3.1. The rationale for using school leavers surveys

Over the last few years we have seen a growing demand for cross-national (longitudinal) comparative research and the data that go with it. The importance of this is shown by activities of several organisations such as:

- the European Union
- the Transitions in Youth Network and its funding by the ESF
- EUROSTAT, who recently started a LEONARDO-project on the evaluation of the usefulness of LFS and ECHP data in relation with transition issues
- the Organisation for Economic Co-operation and Development (OECD), (Hannan et *al.*, 1996)
- the project on Educational Stratification and Occupational Destinations in 13 countries (Müller et *al.*, 1996)

In thinking about more advanced ways of making cross-national comparisons possible, since the Esprit project is sponsored by EUROSTAT, we naturally took account of the existing European wide Eurostat survey(s) such as the LFS (Labour Force Survey) and the ECHP (European Household Panels). However, a description of the LFS in terms of a Quality Frame is given in Froeschl (1997). We were looking for more complex data to test our ideas and chose school leavers survey data for two reasons:

- First, we already knew that surveys like LFS and ECHP have their limitations (Raffe, 1993; Müller et *al.*, 1995). If we were to use the LFS for analysis in the area of Transitions in Youth the following points either could not be taken into account or would cause problems.

- Second, we were aware that combining existing datasets from national school leavers surveys into one cross-national dataset was problematic (Hannan et *al.*, 1994; Smyth and Surridge, 1995). The problems arise because of the complexity of the differences between the various national educational systems and because of the variation in the design of the existing surveys. Thus in creating comparative data for cross-national research we come up against several problems of different types. We identify some of these in the following sub-sections.

3.1.1. Correct definitions

Definitions and terminology differ across surveys, across disciplines and across countries. Therefore it is important to capture these definitions in the descriptions of the datasets. For example, if one looks at "drop-outs" one is immediately confronted by the question "what is a drop-out?" (Oskardottir et *al.*, 1996). A reaction to this question is often "How do they look upon it themselves?". Often we take a general theoretical approach, but whenever we are discussing these matters we illustrate the exceptions by using examples from our direct experience. We could consider trying to include these exceptions right from the beginning.

3.1.2. Data have their own setting

As we have already said, differences between the countries are often not taken into account, although we know that they can have major implications. National (regional), cultural and historical factors are relevant to any cross-national survey. In the case of school leavers, educational and labour market settings also need to be taken into account.

For example, in (Oskardottir et *al.*, 1996) it is stated that a Finnish Gymnasium is to many other people synonymous for middle class. However, this is not a definition that will be found in any of the literature. The view persists even though the composition of this type of school has changed in recent years.

3.1.3. Practical problems

Surveys are conducted for a number of reasons, and the design of the survey can have implications for how it is incorporated in a comparative analysis. These include:

- Small numbers per country:
If one breaks down the subset of respondents in which we are interested (aged 16 - 25 for example), by different sub-categories the numbers immediately become too small for many statistical operations to be possible.

- The purpose for which the data were collected (origin):
The purpose of the survey and the interests of the sponsoring body will affect the overall design. For example, an Education Authority might want to investigate the "output" of their schools, and therefore choose a leavers survey. To investigate choices made and alternative routes from compulsory school to the labour market, a cohort study would be more appropriate. These choices affect the kinds of combinations and analyses that can be made.

As an example of these difficulties, Hammer (1996) discussed how she was constrained to using a longitudinal study of people who initially all had a job while she was primarily interested in unemployment and therefore has had major problems over the years. However this was the only dataset available for Norway.

- The way data are collected:
Postal, telephone, and personal interview surveys all have different characteristics which can affect the type of question asked, response rates, etc.

- The kind of questions asked:
In order to collect the same information, different questions might be asked, either deliberately, to take into account the setting of the respondent, or accidentally because two research teams have approached the question slightly differently.

For example, in comparing the Scottish, Irish and Dutch surveys, we found that it was not possible to construct a compatible training question because each team had concentrated on different aspects of training (period under consideration, whether initial or ongoing training etc.)

- The availability of the data:
If national data are not available at the individual level, more *ad hoc* surveys might be used to compensate for this lack.

- Sampling methods:
National sponsor (e.g. the Scottish Education Department) is likely to go for a nationally representative survey. However, if the sponsors are individual institutes or regional authorities, the sampling may be more complex.

- Quality of the data:
Large-scale government surveys are likely to be adequately resourced and of good quality. However, research funded surveys might be smaller and inadequately resourced for preparation as a public dataset.

3.1.4. The Time - element

Time is a key element in studying transition: one wants to see what changes over time. Therefore a time element is connected to every variable.

For example the Netherlands military service disappeared in 1996. Therefore, not only the categories of the STATUS variable ("what are you doing now?") was changed, but it changes also the context of the transition and therefore the interpretation of the STATUS variable in the Dutch dataset.

There is a trade off between the need to gather information on school leavers as quickly as possible, and a desire to know about their activities after leaving. Thus different surveys will be conducted at different times, depending on the primary objectives of the enquiry.

3.2. Describing the Surveys

The surveys on which we concentrated covered a snapshot taken around ten months after leaving school for two cohorts (1991 and 1993) in the two countries (Scotland and the Netherlands). As a starting point we have taken a template from the Depositors Form of the Data Archive at the University of Essex (DATARCH).

Table 1 of the annex shows the information required for this form when registering datasets at the Archive. This table will be modified to take into account the complex questionnaire structure of some surveys. However, since this type of description is fairly well established, we wished first to concentrate on the descriptions of the variables in the datasets.

3.3. Describing the Variables

In considering the descriptions we needed for the variables, we decided to examine a subset of variables in detail, and consider the implications of these variables in a comparative setting. To focus our minds, we wanted to identify a few key variables relevant to the transition from school to working life, aiming to examine the main issues, including national and methodological issues. The variables would be chosen to test the ability of the model to represent complex issues, including the derivation of indicators.

We began with the simplest variable: SEX. We described the variables as they exist in the Scottish and Dutch surveys, and asked what information we needed about them. Table 2 of the annex shows the information we first identified. In this case the information for the two surveys is almost the same, except for language difference and the fact that the gender of the sample members is obtained from administrative records in the Scottish case. This has two implications: there is no reference to the questionnaire, and no Missing Values for Scotland. Also, the names and descriptions are different.

We have said that a Quality Frame is an idealised dataset. It would therefore contain "idealised" variables, i.e. variables which the variables from the actual datasets would map, or recode onto. For SEX this is rather simple, so we have introduced a few artificial differences in order to identify as fully as possible the information that would be needed to map the actual variables to the conceptual variable. We have changed the name, and defined the coding list rather differently. Table 3 of the annex gives the same information for the conceptual variable GENDER. In constructing this table, some information, such as the link to the questionnaire, is not applicable (NA). We also have to think about the strategy for Missing Values and privacy laws.

A further consideration is that there is no recorded way of getting from the actual variables to our idealised or target variable. We have to introduce another set of information for the actual variables: transformation rules. In this case, the rule for both countries would be

$$\text{Transformation:} \quad 1 \rightarrow 2,$$
$$2 \rightarrow 1$$

Table 4 of the annex shows the same information for a different variable, "year of leaving school", which is a screening variable for eligibility for the 1991 school leavers surveys.

As we work on different datasets, we will find complications. For instance, the definitions of target variables such as YRLEFT will change and simple ranges may become more complex definition rules, e.g.:

If (YEAR_OF_SURVEY EQ 91) then RANGE_OF(YRLEFT) = "1989-1991"
If (YEAR_OF_SURVEY EQ 93) then RANGE_OF(YRLEFT) = "1991-1993"

We will therefore continue to modify the template to take account of all the required information we can identify. We will give one more example of the issues we intend to take into account. In Scotland, the legal situation is such that pupils may not leave school before their 16th birthday. This means that, although for the majority S4 is the last class of compulsory education, there is a significant minority who cannot leave before the end of term 1 of S5. No such concept exists for the Netherlands. We therefore have in the target dataset a variable which is only relevant to one country. Moreover, the variable is not asked directly in the questionnaire but is derived from other basic variables. Note that the variable could be derived for other countries, but is not relevant, and so is never calculated. Table 5 of the annex shows the description of this variable.

3.4. Describing Context

We have said that we also wish to describe context. Of course a full definition of the variables will contribute to context, but it is not sufficient. Two extra inputs are needed. We need to formally record all transformations that are made to the original survey variables, and we need to construct extra contextual information to which the variables are linked.

To do this, we began by taking a global view. Based on our empirical knowledge, we can construct a schema of the constraints and influences that bear on a school leaver as (s)he makes the transition from school to working life. Figure 3 is a simplified version of this complex schema.

Figure 3
Constraints and Influences on School Leavers
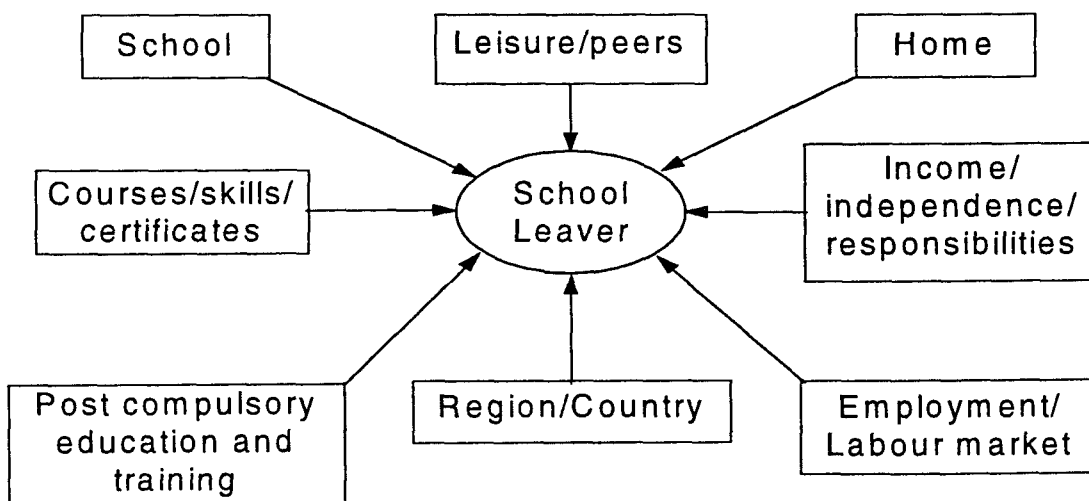
In order to restrict ourselves to the relevant contextual information, all extra variables, such as school or region, had to be referred to in the questionnaires, either directly or indirectly. Even with this restriction, the description of this background is considerable.

4. CONCLUSIONS

In this paper we have described the work done in the first six months of the *IDARESA* project. This section describes how we shall take the work forward, and discusses its relevance to Transitions in Youth.

4.1. Indication of Future Work

The work to date has been of a conceptual nature. From the templates we have developed, we are defining a database which will hold the descriptions of the variables from the two surveys, and the related conceptual variable. We anticipate that the definition of the conceptual variable will change as we progress, and especially if we consider other surveys. However, the objective at present is not to produce a complete formal description of the surveys, but to test the templates by using variables that address different problems. We have already seen one variable which references the legal system of the country, and we will find other dependencies on the educational systems as we progress. This means that we will also have to develop a Quality Frame for educational systems. However, we would like to make two points:

- First, we are not developing a theory of educational systems. Our aim is to formalise existing descriptions.

- Second, the approach to developing Quality Frames for educational systems is the same as that for the survey data: i.e. it is a bottom up, open system. This contrasts with a top down schematic approach which does not allow for the full complexity of some systems.

4.2. *IDARESA* and the Transitions in Youth Network

IDARESA is an IT project which gives us a very good opportunity to further explore School Leavers Surveys and the educational systems of Europe and ways in which they can be compared. In contrast to our previous approach, we will concentrate on mapping survey variables onto a conceptual questionnaire. By the end of the project, software will have been developed to access the data via the survey descriptions and the Quality Frame. This approach has the advantage of requiring us to explicitly and formally define the transformations mapping the data to the Quality Frame, whereas previously the transformations were held in SPSS (Stands for Statistical Package for Social Science) codes developed by the individual partners. Moreover, once the software has been developed, in principle refinements can be made to the Quality Frame and the transformations, so that the national data can always be transformed to the latest European standard.

We hope that this formal approach based on the requirements of the IT project will also contribute to the ESF goal of advancing theoretical understanding of transitions in youth.

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ANNEX

Table 1

Metadata variables for registering a dataset

Table	Variable	Description
Survey Description	Survey ID	Unique identifier of survey
Survey Description	Short name	Short name of survey
Survey Description	Title	Official title of the dataset/study
Survey Description	Purpose	Description of the survey
Survey Description	BiblioId	Internal reference
Survey Description	Contact	Responsible person / contact
Survey Description	Funder	Name of sponsor
Survey Description	Sample-unit	e.g. boys in Strathclyde in 1993
Survey Description	Scales	Scales & codes, e.g. occupational coding
Survey Description	Target	Size of target sample
Survey Description	Achieved	Size of achieved sample
Survey Description	Weighted	Size of weighted sample
Survey Description	Wtfactor	Name of weighting variable
Survey Description	Startdate	Date survey started
Survey Description	Enddate	Date survey was closed
Survey Description	Follow up	Basis for follow up procedure
Survey Description	Crossref	References to other datasets
Survey Description	Population	Size of population
Survey Description	Series description	Description of series dataset belongs to
Survey Description	Bibref	Reference to papers, etc.
Survey Description	Notes	Any general notes
Survey Description	Keyword	Keyword

Table 2

A template for describing the variable GENDER

Short description	Full Description	For Scotland, 1991	For NL, 1991
Name	Name of variable	SEX	USEXE
Description	Textual description of the variable	Gender	Geslacht
Filter	Whether variable is a filter	no	no
Filtered	Whether variable was filtered, i.e. asked of a subset of the sample	no	no
Screening	Whether variable was used for screening for eligibility	no	no
Link to questionnaires	A link to the questionnaire i.e. number or page and number of question	none (from sample definition)	question 20
Statistical type	Statistical type e.g. nominal, etc.	nominal	nominal
Unit of measurement	Unit of measurement where appropriate		
Codelist	Codelist - also a link to table of codelists (value labels)	(1) Male (2) Female	(1) Male (2) Female
Range	Range	1 - 2	1 - 2
Missing Values	Missing Values	none	SYSMIS
Privacy	Privacy - whether and why a variable is kept from the final dataset e.g. for anonymity	no	yes

Table 3
A template for the Conceptual variable GENDER

Full Description	"Idealised" variable
Name of variable	GENDER
Textual description of the variable	Gender of respondent
Whether variable is a filter	no
Whether variable was filtered, i.e. asked of a subset of the sample	no
Whether variable was used for screening for eligibility	no
A link to the questionnaire i.e. number or page and number of question	NA
Statistical type e.g. nominal? etc.	nominal
Unit of measurement where appropriate	none
Codelist - also a link to table of codelists (value labels)	(1) Female (2) Male
Range	1 - 2
Missing Values	
Privacy - whether and why a variable is kept from the final dataset e.g. for anonymity	

Table 4
Template for variable YRLEFT

	1991 S4 Scotland	1991 LBO/AVO NL	Target variable
Name	LFTSCHYV	VYRLFT	YRLEFT
Description	Year left school	Jaar van schoolverlaten	Calendar year respondent last left school
Filter	no	no	no
Filtered	no	no	no
Screening	yes	yes	yes
Link to questionnaires	Page 1, Question 5	1b	NA
Statistical type	>	>	discrete
Unit of measurement	>	>	year (Julian)
Derivation	Questionnaire	Questionnaire + admin.	NA
Codelist	none	none	none
Transformation	+1900	+1900	NA
Range	1989 - 1991	1989 - 1991	1989 - 1991
Missing Values	99	none	
Privacy	no	no	

Table 5
Template for STAGELFT

	1991 S4 Scotland	1991 LBO/AVO NL	Conceptual
NAME	STAGELFT		S5 Xmas leavers
Filter			NA
Filtered			NA
Screening			NA
Description	when left school in 4 categories		Scottish specific...
Link to questionnaires	derived		NA
History	fn(STAGE, LEFTSCHYV)		fn(STAGE,YRLEFT)
Statistical type	>		ordinal
Unit of measurement	>		-
Derivation	derived		derived
Codelist	see below[1]		see below
Transformation	none		NA
Range	1-4		1 - 4
Missing Values			see MVs for basic vars.
Privacy			see basic vars.

[1]Code:
1. left in S4 or earlier
2. left term1 of S5
3. left in term 2 or 3 of S5
4. left in S6

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PROFILS SECTORIELS DE GESTION
DE LA MAIN-D'ŒUVRE :
QUELLES CONSÉQUENCES POUR L'EMPLOI DES JEUNES ?

Nathalie Moncel

Résumé

Cet article présente les résultats d'une recherche centrée sur les pratiques de gestion de la main-d'œuvre jeune dans les secteurs d'activité en France en 1992. L'hypothèse principale de cette recherche est que les modes d'emploi des jeunes sont fortement dépendants des différents types d'organisation des marchés du travail. Les résultats mettent en évidence la partition du système d'emploi et les liens entre modes de gestion sectoriels et emploi des jeunes. Ces derniers sont analysés à l'aide des distinctions entre marché interne, marché externe et marché professionnel. Finalement, si au regard d'études précédentes, les configurations sectorielles de l'emploi des jeunes apparaissent stables, l'interprétation des logiques de recours à la main-d'œuvre jeune reste problématique tant en ce qui concerne la pertinence du niveau sectoriel qu'au regard des cadres théoriques disponibles.

Abstract

Youth Labour Force Management and Economic Sector

This paper presents a research based on the sectorial practices of youth employment in France in 1992. The main hypothesis is that youth employment patterns are strongly linked with the different kinds of labour market organization. The results point out the segmentation of the labour market according to the sectorial workforce management practices. The implications for youth employment are described in terms of sectorial typologies and are analysed with the help of the distinction between internal market, external market and professional market. As a result, several issues appear for the school-to-work transition analysis concerning the factors and the levels of segmentation.

Cet article présente les résultats d'une recherche centrée sur les pratiques de gestion de la main-d'œuvre jeune dans les secteurs d'activité en France en 1992[1]. La démarche s'inscrit dans la continuité de travaux menés en France au début des années quatre-vingt qui ont mis en évidence l'impact des mobilités sectorielles sur les conditions d'accès à l'emploi des jeunes. Par rapport aux analyses traditionnelles fondées sur des données individuelles, cet angle d'approche permet un changement de perspective dans l'appréhension des conditions d'insertion des jeunes en les resituant dans le fonctionnement d'ensemble du marché du travail.

La méthodologie utilisée cherche à dégager au niveau de chaque secteur la cohérence d'un ensemble de dimensions caractéristiques de l'emploi qui sera traduit en termes de gestion de la main-d'œuvre. Les résultats mettent en évidence la partition du système d'emploi et les liens entre modes de gestion sectoriels et emploi des jeunes. Leur interprétation s'appuie sur les analyses qui considèrent la pluralité des modes de fonctionnement des marchés du travail comme structurante des modalités d'accès à l'emploi. Par comparaison avec les travaux précédemment évoqués, la recherche présentée permet d'apprécier l'évolution des configurations sectorielles de l'emploi des jeunes. Elle apporte des éléments de réflexion à la fois méthodologiques et théoriques sur les conséquences, pour l'insertion et son analyse, des facteurs et des niveaux de segmentation du système d'emploi.

1. LE CADRE DE LA RECHERCHE

Dans le cadre des contributions aux travaux préparatoires du $IX^{ème}$ plan, le Céreq (1983) dressait un bilan de l'évolution des conditions d'insertion professionnelle des jeunes pour la période 1973-1980 en ces termes : « *diminution du nombre des jeunes sortants de l'école sans formation professionnelle, aggravation importante mais aussi différenciation du chômage selon les niveaux de formation, déclassements dus à l'écart croissant entre niveau de formation des jeunes et niveau de qualification des emplois sur lesquels ils sont recrutés, maintien relatif de la bonne qualité des insertions à la sortie des enseignements supérieurs.* » (p. 10). Ce bilan marque l'antériorité des constats actuels et souligne les tendances de longue durée qui caractérisent les conditions de l'insertion des jeunes en France.

Parallèlement, la synthèse des travaux du Céreq faite à cette occasion mettait en avant comme résultat majeur des recherches sur l'insertion le fait que parmi les facteurs déterminants des conditions d'accès à l'emploi des jeunes, certains ne relevaient pas des caractéristiques des jeunes ou du fonctionnement du système scolaire mais plus directement de la gestion globale de la main-d'œuvre et de ses composantes sectorielles. La période de transition professionnelle apparaît structurée par l'incidence des modes de gestion de la main-d'œuvre, des transformations de l'emploi et de la mobilité entre les emplois : « *Les résultats concernant l'emploi des jeunes,*

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[1] Les travaux ont été réalisés dans le cadre d'une recherche effectuée pour la Direction des lycées et collèges (DLC) du ministère de l'Éducation nationale sur les modalités d'usage de la main-d'œuvre juvénile par les entreprises et les secteurs d'activités. Le rapport final de cette recherche (Moncel et Rose, 1996) présente une analyse des dimensions de l'emploi des jeunes à trois niveaux : au niveau général du système d'emploi, au niveau intermédiaire des secteurs d'activité et au niveau d'entreprises représentatives de trois secteurs des services. La communication présentée reprend les principaux résultats du chapitre 2 sur l'analyse des pratiques sectorielles d'emploi des jeunes.

précédemment mis en évidence, ne peuvent être compris qu'en reconstituant la logique des modes de gestion de la main-d'œuvre des entreprises, produit des contraintes techniques et économiques mais aussi de l'histoire des relations professionnelles, des politiques d'embauche, de formation et de classification, etc. » (Céreq, 1983, p.10). Ces constats relativisaient les interprétations des difficultés d'insertion des jeunes en termes d'inadéquation entre les formations dispensées par le système éducatif et les besoins en qualification des entreprises.

Dans ce sens, des études plus récentes portant sur les changements intervenus durant la dernière décennie ont mis en évidence les tensions du modèle d'insertion à la française, hésitant entre plusieurs voies quant à l'évolution du système de formation et butant sur les pratiques de gestion de la main-d'œuvre qui conduisent à une exclusion sélective des jeunes et à des déclassements à l'embauche (Elbaum et Marchand, 1994 ; Verdier, 1995). Les emplois auxquels les jeunes ont accès sont singuliers à plusieurs titres : plus souvent à temps partiel et à durée déterminée, situés en bas de l'échelle des qualifications, ils sont polarisés dans des secteurs particuliers (Moncel et Rose, 1995). Pour autant, les logiques d'affectation des jeunes aux emplois diffèrent-elles de celles concernant l'ensemble de la main-d'œuvre ? Pour comprendre la singularité des modes d'accès à l'emploi des jeunes, il convient de resituer l'insertion au sein du fonctionnement du système d'emploi, en s'appuyant notamment sur les analyses en termes de segmentation.

1.1. La segmentation du système d'emploi

L'observation de l'hétérogénéité des types d'emplois et de main-d'œuvre sur le marché du travail a depuis longtemps établit la segmentation comme une réalité centrale du fonctionnement du système d'emploi. Celle-ci conduit classiquement à retenir une distinction principale entre un marché primaire - associant des emplois stables, qualifiés, bien rémunérés et offrant des perspectives de carrière, à une main-d'œuvre ancienne sur le marché du travail, et à niveau de formation élevé - et un marché secondaire, aux caractéristiques d'emploi et de travailleurs opposées. Plusieurs grilles de lecture de cette segmentation existent suivant le niveau d'analyse et la démarche adoptés.

L'approche par les unités de production transfère la dichotomie primaire/secondaire aux modalités d'affectation de la main-d'œuvre aux emplois. Les travaux de Piore et Doeringer (1971) ont mis en évidence l'existence de mécanismes d'allocation de la main-d'œuvre internes aux firmes, donc distincts des mécanismes de marché. Ces résultats ont assis la distinction marché interne/marché externe. Le marché interne se définit comme un espace au sein duquel les postes, les affectations, les rémunérations et les règles de mouvement des travailleurs au sein de cet ensemble sont définis par des règles spécifiques à cet espace et non négociées au coup par coup. Il concerne la main-d'œuvre du segment primaire. Le fonctionnement du marché externe est identifié à celui d'un marché de biens et caractérisé comme un marché inorganisé de main-d'œuvre secondaire. Dans ce cadre d'analyse, les différenciations de la main-d'œuvre apparaissent fonctionnelles du point de vue de la production. La spécificité des jeunes ne relève pas tant de leurs caractéristiques individuelles que de l'usage qui en est fait. Mais si l'analyse permet de rendre compte du rôle structurant du système productif, elle rend difficile l'interprétation du processus d'insertion professionnelle par la sous-

estimation de l'importance des marchés externes et de leurs modes de structuration (Rose, 1984).

1.2. Modes de fonctionnement des marchés du travail et modalités d'insertion professionnelle

Les travaux de Marsden (1989) ont, eux, mis l'accent sur le fait que les marchés du travail étaient des phénomènes institutionnels dans la mesure où ils dépendent d'un support institutionnel qui régule les mobilités. Selon les critères principaux de la reconnaissance et de la mobilité des qualifications, il retient l'existence de trois types de marché du travail : marchés professionnels (formation normalisée, transférable à l'échelle du métier), marchés internes (formation spécifique à l'entreprise, mobilité intra-entreprises) et marchés externes (formation non prise en compte, mobilité concurrentielle).

Cette typologie est particulièrement importante pour comprendre les modalités d'insertion professionnelle des jeunes : « *la structure institutionnelle (des différents marchés) influence l'emploi des jeunes grâce à son impact sur l'acceptabilité ou non d'un taux de salaire inférieur pour les jeunes, sur l'accès à certains types d'emploi et sur les possibilités de substitution entre les jeunes et les autres travailleurs* » (Marsden, 1989, p. 244).

Les dimensions des processus d'insertion et les dynamiques des systèmes d'emploi sont donc étroitement imbriquées. Les travaux de comparaison internationale portant sur les modalités d'accès à l'emploi des jeunes ont mis en évidence la cohérence entre les systèmes de régulation de l'emploi des jeunes et les configurations nationales des marchés du travail (Garonna et Ryan, 1989 ; Eyraud et *alii.*, 1990 ; Germe et Marsden, 1991).

Au sein des systèmes productifs, les formes de mobilité, les systèmes de relations professionnelles, les modes de définition de la qualification, les règles de rémunération sont autant d'éléments structurants des systèmes d'emploi qui déterminent les conditions d'emploi des jeunes. A un niveau très formalisé, des pays comme l'Allemagne et à un moindre degré la Grande-Bretagne, présentent des structurations en marchés professionnels qui conditionnent une insertion réglementée des jeunes dans les professions, principalement par la voie de l'apprentissage. Couplée à une prédominance de marchés internes, la régulation de l'accès à l'emploi des jeunes en France s'appuie, par contre, sur l'exclusion sélective des jeunes de certains segments du système d'emploi, et une entrée sur les emplois du bas de l'échelle.

Dans les faits, les systèmes d'emploi nationaux présentent une combinaison évolutive de ces différents types de marchés. En croisant cette typologie avec les modalités de transition formation initiale - emploi en termes de statut, Freyssinet (1996) établit un tableau illustratif des différentes positions des jeunes sur le marché du travail.

Tableau 1

Modes d'insertion des jeunes dans les marchés du travail

	Mode de transition formation initiale - emploi	
Type de marché du travail	Statuts spécifiques	Passage direct
Professionnel	Apprentissage germanique ou anglo-saxon	Recrutements sur diplômes Professions réglementées
Interne	Dispositifs d'insertion centrés sur l'acquisition de qualifications contrôlées par l'employeur	Modèle d'emploi à vie japonais Recrutements sur concours
Externe	Dispositifs d'insertion centrés sur l'acquisition d'expérience professionnelle et/ou la réduction du coût salarial	Recrutements sans expérience professionnelle exigée

D'après J. Freyssinet, 1996.

1.3. L'analyse des modes de gestion et de l'emploi des jeunes au niveau sectoriel

En plaçant l'observation de la partition du système d'emploi au niveau des secteurs d'activité, les analyses des modes de gestion de la main-d'œuvre se sont avérées fécondes. Elles reposent sur l'hypothèse d'une homogénéité des pratiques sectorielles qui recouvre le fait que le secteur constitue une réalité institutionnelle en tant que cadre des conventions collectives, et une réalité économique en tant que rassemblement d'unités ayant des places et fonctions similaires au sein de la régulation économique d'ensemble.

Les travaux de Eymard-Duvernay (1981) puis ceux de Grando (1983) sur l'industrie ont mis en évidence la corrélation entre les caractéristiques des activités des secteurs et les caractéristiques de leur main-d'œuvre. Ces résultats sont à la base d'une typologie désormais classique présentant deux formes polaires de gestion de la main-d'œuvre[2] opposées par leur degré d'indépendance au marché du travail. On trouve d'un côté des secteurs à gestion de la main-d'œuvre hors marché occupant des hommes plutôt âgés, diplômés, anciens en entreprise et ayant accès à la formation continue, et de l'autre côté des secteurs à gestion de la main-d'œuvre par un marché fortement mobile, composé de femmes et d'immigrés, peu diplômés, avec une prépondérance des postes d'ouvriers non qualifiés. Cette opposition s'appuie en gros sur l'opposition entre industrie lourde (par exemple les secteurs de l'énergie, la chimie, la construction navale) et industrie légère (par exemple les secteurs des industries agro-alimentaires, du BTP). Entre ces deux formes se situe un continuum de modes intermédiaires de gestion de la main-d'œuvre par des secteurs qui présentent une gestion unifiée de formes d'emplois mixtes.

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[2] La présentation regroupée des résultats de Eymard-Duvernay et Grando est adoptée pour la similitude de leurs résultats en termes de groupes de secteurs. Toutefois, les deux auteurs diffèrent quelque peu dans leur démarche d'analyse et quant à la taxinomie utilisée pour caractériser les modes de gestion.

En considérant l'insertion professionnelle comme partie intégrante du système de mobilité, les travaux menés au niveau sectoriel ont apporté des éclairages essentiels à la compréhension des processus à l'œuvre dans l'accès à l'emploi des jeunes.

Clémenceau et Géhin (1983) ont étudié les relations entre mobilité sectorielle des actifs et insertion des jeunes dans les secteurs entre 1976 et 1980. Ils ont mis en évidence le rôle spécifique tenu par certains secteurs pour l'accès des débutants à l'emploi. Les zones d'insertion privilégiées tendaient à se polariser sur des secteurs à main-d'œuvre particulièrement instable. Ces types de mobilité étaient reliés à des types de gestion de la main-d'œuvre : gestion internalisée de la main-d'œuvre pour les secteurs à forte stabilité, gestion externe ou à échanges pour les secteurs à stabilité moyenne, gestion concurrentielle pour les secteurs à faible stabilité. Il apparaît dès lors que « *les flux d'allocation de la main-d'œuvre qui sont observés ont, comme fondement, les logiques de gestion différenciées en œuvre dans la sphère de l'économie. (...) Ceci conduit à proposer qu'une part des difficultés connues par les jeunes à leur entrée en activité trouve racine dans les pratiques de gestion en œuvre dans la sphère internalisée* » (p. 16).

Sur une période similaire mais pour les sortants du secondaire, l'analyse des modalités d'accès des jeunes à l'emploi conduite par Amat et Géhin (1987) effectuait une partition du système productif en distinguant une zone à fort renouvellement très ouverte aux jeunes, une zone très stable fermée aux jeunes, et une zone stable avec appel modéré aux débutants. De même que dans l'étude précédente, les auteurs concluaient à « *une véritable polarisation du système d'emploi avec concentration de l'insertion des sortants du système éducatif sur un nombre restreint d'emplois et de secteurs d'activité : commerce, services marchands, BTP.* » (p. 45).

1.4. Les enjeux d'une analyse en termes de gestion de la main-d'œuvre

Notre démarche d'analyse s'appuie sur la pertinence du niveau sectoriel comme niveau de segmentation du système d'emploi en tant que support institutionnel fort de la relation entre formation et emploi par l'existence d'instances spécifiques reliant système productif et système éducatif (commissions paritaires consultatives), de conventions collectives (fixant parfois les qualifications à l'embauche mais surtout celles reconnues par le salaire) et en tant que niveau de représentation des partenaires sociaux de l'État. Elle utilise la typologie marché interne / marché externe / marché professionnel pour présenter les résultats des analyses sectorielles en s'appuyant sur les modes de gestion mis en évidence.

La notion de gestion de la main-d'œuvre est ici définie comme la mise en rapport entre une structure des emplois souhaitée selon l'organisation du travail et une population active déterminée à l'extérieur de la production. Le terme de « gestion » ne renvoie pas à des pratiques d'agents mais à un ensemble de caractéristiques dont on cherche à dégager la cohérence propre au niveau de chaque secteur. Les régularités qui apparaissent dans les modalités de mise en rapport des individus et des emplois servent à définir des profils de gestion de la main-d'œuvre. Par cette approche, on tente d'apporter des éléments de réponse à plusieurs questions.

Tout d'abord, l'approche en termes de mode de gestion permet d'appréhender les différentes dimensions des emplois par l'étude des conditions de statut, de temps de travail, de qualification et de salaire. L'objectif de l'analyse est de comprendre les logiques d'agencement de ces dimensions au niveau sectoriel. En comparant avec les configurations concernant l'ensemble de la main-d'œuvre, peut-on conclure à l'existence de logiques différentes pour la main-d'œuvre jeune ?

D'autre part, la construction de la typologie des modes de gestion sectoriels prend en compte simultanément les caractéristiques de la main-d'œuvre jeune (âge, sexe, niveau de formation, ancienneté sur le marché du travail et en entreprise) et les caractéristiques des emplois (catégories professionnelles, nature des contrats, temps de travail, salaire). Les variables qui jouent le plus dans la différenciation des profils de gestion ne sont-elles pas également déterminantes de conditions d'insertion différenciées pour les jeunes ?

A travers ces deux questions, c'est l'existence d'un marché du travail jeune qui est ici interrogée, tant dans sa dimension de lieu de rencontre entre l'offre et la demande de travail que régulerait une logique marchande, que dans son caractère singulier qui suppose une homogénéité de la main-d'œuvre jeune et une spécificité des processus d'affectation des individus au sein des activités productives.

Enfin, en comparant nos résultats avec ceux des travaux effectués au début des années 80, on s'interrogera sur l'évolution des configurations sectorielles qui dessinent les voies d'accès à l'emploi des jeunes.

2. LA MÉTHODOLOGIE UTILISÉE

2.1. La mise en évidence de profils sectoriels de gestion de la main-d'œuvre

L'objectif de l'analyse est de mettre en évidence des zones du système d'emploi caractérisées par des structures d'emploi et des types de main-d'œuvre et au sein desquelles se situent les secteurs d'activité.

Les données utilisées se présentent sous la forme de tableaux croisant les secteurs d'activité (NAP 40) et des indicateurs portant sur les caractéristiques de la main-d'œuvre et des emplois. Notre recherche s'est appuyée sur l'élargissement du champ d'observation de l'emploi des jeunes à la population active occupée de moins de trente ans afin de repérer les modalités de prise en compte par les secteurs des caractéristiques d'âge, d'ancienneté sur le marché du travail, et de diplôme, dans leur appel différencié à la main-d'œuvre jeune.

La méthode utilisée est celle de l'analyse factorielle des correspondances multiples, méthode statistique adaptée à l'étude des relations entre des variables qualitatives, et, pour notre étude, permettant la mise en rapport entre deux ensembles : d'un côté l'ensemble des variables retenues définies sur les secteurs, et de l'autre l'ensemble des secteurs caractérisés par les variables. L'analyse factorielle permet de repérer, d'une part les variables significatives qui vont caractériser les profils-types de gestion de la

main-d'œuvre, et d'autre part le positionnement des secteurs par rapport à ces modèles de gestion[3]. Elle nous donne ainsi des éléments de réponse à deux questions : quelles sont les variables de segmentation du système d'emploi ? Quels sont les secteurs qui contribuent le plus à cette segmentation ?

Pour tester l'hypothèse de l'existence d'un système d'emploi des jeunes, on a cherché à le spécifier et à voir s'il y avait une homogénéité de la main-d'œuvre juvénile. Seront dans un premier temps distingués et comparés les modes de gestion pour la seule main-d'œuvre jeune et ceux concernant l'ensemble de la main-d'œuvre. Puis des analyses porteront sur les populations qui sont apparues lors des analyses globales comme fortement différenciées par les modes de gestion sectoriels de la main-d'œuvre : les actifs ayant entre 18 et 25 ans et ceux ayant entre 26 et 29 ans, les jeunes hommes et les jeunes femmes. On a d'autre part reproduit systématiquement les analyses menées pour l'ensemble des secteurs sur les seuls secteurs du tertiaire afin de dégager les profils de l'opposition forte secondaire / tertiaire et de mieux caractériser les modes de gestion au sein de ces secteurs.

Dans le cadre de l'analyse factorielle, la construction de typologies revient à faire des regroupements entre des individus (ici des secteurs d'activité) selon les valeurs prises pour chacun d'entre eux par certains critères (ici des variables indicatives des types d'emploi, de main-d'œuvre et d'organisation). Les groupes constitués sont composés de secteurs suffisamment proches entre eux et suffisamment éloignés des autres par rapport à certaines modalités des variables. On met ainsi en évidence des « grandes zones » dans le système productif présentant des tendances communes dans les modes de gestion de la main-d'œuvre sans toutefois pouvoir conclure à la similitude de ceux-ci au sein des secteurs d'un groupe particulier.

2.2. Les indicateurs des modes de gestion de la main-d'œuvre

La construction des indicateurs des modes de gestion de la main-d'œuvre est déterminante dans la mise en œuvre d'une telle méthodologie. L'hypothèse étant celle d'une partition du système d'emploi, les indicateurs doivent rendre compte des variables de différenciation de la main-d'œuvre et des emplois. Toutefois les données statistiques sur telle ou telle dimension de l'emploi ne sont pas toujours disponibles ou sont peu fiables, le choix des variables a donc été quelque peu contraint[4]. Les indicateurs sont de trois types, en cohérence avec la notion de gestion de la main-

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[3] De manière plus technique, l'analyse factorielle vise à expliquer, par la construction d'axes factoriels, la forme du nuage de points constitué par les positions respectives des secteurs et des variables. A partir de l'étude des parts d'inertie expliquée, on présente une hiérarchie des variables et des secteurs selon leurs poids dans la construction des axes factoriels. Les variables et les secteurs ayant les plus fortes contributions au premier axe servent à définir la première distinction, les distinctions secondaires étant faites à partir de l'interprétation de la construction des deuxième et troisième axes.

[4] Ainsi, les dimensions de la qualification et de la mobilité ne sont pas finement appréhendées, notamment par l'absence dans l'enquête Jeunes complémentaire à l'enquête Emploi de 1992 de données exploitables sur la spécialité de formation et de données longues sur la mobilité entre les secteurs et les qualifications.

d'œuvre retenue : caractéristiques des actifs, caractéristiques des formes de mises au travail et caractéristiques des secteurs[5].

La caractérisation des actifs passe principalement par les caractéristiques démographiques de la main-d'œuvre en termes d'âge et de sexe. Pour les analyses spécifiques aux jeunes, il a été possible d'ajouter les indicateurs suivants :

- niveau de diplôme des jeunes actifs : cet indicateur doit permettre de différencier les secteurs selon leur appel plus ou moins fort aux formations initiales des jeunes. Il conviendra toutefois d'en relativiser le rôle étant donnée la concurrence accrue dans l'accès aux emplois qui se traduit par des phénomènes de déclassement à l'embauche et donc de sous-utilisation des formations des jeunes ;

- temps de présence sur le marché du travail : calculé à partir de l'âge de sortie du système éducatif, il donne une idée approximative de l'expérience professionnelle des salariés car il ne tient pas compte de la « qualité » du parcours. Toutefois, l'ancienneté sur le marché du travail apparaît comme un facteur déterminant des conditions d'insertion professionnelle des jeunes (Méron et Minni, 1995) ;

- ancienneté en entreprise : cette caractéristique est une donnée *individuelle* qui renvoie de fait aux pratiques de gestion du personnel.

La caractérisation des formes de mises au travail est réalisée par des variables identificatrices de la structure des emplois, c'est-à-dire la répartition de la main-d'œuvre au sein des catégories socioprofessionnelles[6], la durée hebdomadaire moyenne du travail, l'intensité du recours aux contrats à durée déterminée et au temps partiel, l'effort de formation professionnelle en termes de pourcentage de la masse salariale, le taux d'évolution du volume d'emploi en 1992.

En ce qui concerne les salariés de moins de 30 ans, d'autres variables ont pu être utilisées : le taux de salaire horaire, avec les limites inhérentes à la fiabilité de cette variable issue d'enquêtes individuelles, le degré d'ouverture aux jeunes afin de distinguer des secteurs ouverts dits secteurs d'insertion et des secteurs fermés aux jeunes, le taux d'évolution de la part des 18-25 ans dans la main-d'œuvre du secteur entre 1982 et 1992.

La caractérisation des secteurs est faite selon des indicateurs de contraintes de marché : la concentration du secteur caractérisée par la taille moyenne des entreprises, l'intensité capitalistique des activités, le chiffre d'affaire net du secteur en 1992, le taux d'exportation.

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[5] Le détail des indicateurs et leurs sources sont présentés en annexe.

[6] Toutefois, la qualification de l'emploi n'est pas finement appréhendée du fait du niveau d'agrégation en 4 postes de la nomenclature utilisée (ONQ, OQ, employés, cadres et professions intermédiaires). Un tel regroupement est apparu nécessaire pour ne pas donner trop de poids à cette variable dans les analyses, et par la faiblesse des effectifs salariés de moins de trente ans, notamment dans les catégories intermédiaires et d'encadrement.

Ces variables sont apparues surdéterminantes dans la différenciation des secteurs mais leur traitement en variables supplémentaires ne bouleverse pas la configuration des secteurs, les autres variables étant fortement corrélées avec ces indicateurs d'activité.

3. LES RÉSULTATS

3.1. Les modes de gestion de la main-d'œuvre dans l'ensemble des secteurs

Dans un premier temps, on a évalué la stabilité des groupes de secteurs et la permanence des variables discriminantes des modes de gestion de la main-d'œuvre lorsqu'on la traite tous âges confondus et lorsqu'on ne considère que la main-d'œuvre juvénile (salariés de moins de 30 ans). Une synthèse des résultats a permis de construire une typologie sectorielle des modes de gestion de la main-d'œuvre présentés sous forme de « profils ».

L'analyse menée sur l'emploi total pour 1992 fait apparaître des profils de gestion dans un continuum classique entre le pôle des secteurs à gestion internalisée et celui des secteurs à gestion par le marché. Les différenciations majeures reposent sur les caractéristiques d'âge et de sexe de la main-d'œuvre, sur le taux d'emplois hors CDI (contrat à durée indéterminée) et à temps partiel, puis sur la structure des qualifications. Les distinctions sectorielles sont globalement identiques à celles mises en évidence dans les travaux de Eymard-Duvernay et Grando.

En réalisant la même analyse mais cette fois-ci uniquement sur la main-d'œuvre salariée de moins de trente ans, les résultats montrent que les configurations sectorielles des modes de gestion restent globalement les mêmes. Les différenciations pointent le rôle discriminant plus fort des critères d'âge et de sexe alors que celui de la structure des qualifications apparaît moindre, et que celui des emplois hors CDI disparaît. Ces résultats sont cohérents avec les spécificités et déterminants de l'emploi des jeunes (Moncel et Rose, 1995) : le fort rôle différenciateur du sexe et de l'âge dans l'accès aux emplois, la généralisation des emplois hors CDI et la moindre distinction des catégories socioprofessionnelles liée à la polarisation de la main-d'œuvre juvénile sur les emplois d'exécution. L'ajout d'autres variables concernant uniquement les salariés de moins de trente ans (diplôme, salaire horaire, ancienneté sur le marché du travail et en entreprise) permet d'affiner la caractérisation des profils de gestion.

3.1.1. Les différenciations dans la gestion de la main-d'œuvre jeune

Les différences de recours à la main-d'œuvre jeune en termes d'âge et de sexe constituent le premier mode de distinction des profils sectoriels. Les oppositions homme/femme et 18-25 ans / 26-29 ans divisent le premier plan factoriel en 4 cadrans auxquels sont associées des pratiques d'usage (temps de travail, catégories socioprofessionnelles, taux de salaire) et des pratiques de renouvellement de la main-d'œuvre (évolution des effectifs, degré d'ouverture aux jeunes, taux de participation à la formation professionnelle continue). On peut associer à ces profils sectoriels des caractéristiques de mode de production (intensité capitalistique, concentration).

Les différences hommes / femmes correspondent à des différences dans la spécialité des professions (ouvrier versus employé) tandis que les différences d'âge entre 18-25 ans et 26-29 ans sont à relier à des différences en termes de niveau d'emploi (ouvrier non qualifié versus professions intermédiaires et cadres). Il est à noter que le diplôme n'intervient que dans des distinctions secondaires.

Les secteurs les plus sélectifs à l'égard des jeunes occupent les plus âgés et les plus expérimentés et offrent des salaires élevés pour des postes de cadres ou de professions intermédiaires. Ce sont les secteurs les plus concentrés et à forte intensité capitalistique. La différence homme/femme correspond globalement à l'opposition secondaire / tertiaire. A l'autre pôle se trouvent les secteurs les plus ouverts aux jeunes qui occupent les plus jeunes (18-25 ans) et les débutants pour des salaires faibles. Le recours au temps de travail et la structure des qualifications sont différenciés selon le sexe des actifs. Aux secteurs faiblement utilisateurs de temps partiel est associée la prépondérance des postes d'ouvriers. La main-d'œuvre est masculine et souvent diplômée du secondaire. A l'inverse, les secteurs ayant un fort recours au temps partiel occupent une main-d'œuvre plutôt féminine sur des postes d'employés.

Sur un troisième axe, les secteurs sont différenciés par leur recours aux emplois hors CDI. Le degré d'ouverture aux jeunes joue également un rôle mais ni le sexe, ni l'âge n'interviennent dans cet axe de différenciation. C'est plutôt l'ancienneté sur le marché du travail et le niveau de diplôme qui constituent les caractéristiques individuelles déterminantes. un pôle de l'axe est tiré par les modalités des variables individuelles concernant les débutants, diplômés du niveau BEP-CAP et par les modalités des variables d'emploi décrivant la catégorie socioprofessionnelle d'ouvrier qualifié et un faible taux d'emploi hors CDI. A ce pôle sont associés les secteurs qui ne discriminent pas la main-d'œuvre jeune et recrutent, sur des statuts précaires, des jeunes diplômés Bac et plus pour des postes de professions intermédiaires et de cadres.

3.1.2. La caractérisation des profils de gestion

En associant les modalités de gestion définies sur l'ensemble de la main-d'œuvre aux caractéristiques propres à la main-d'œuvre jeune, on définit des profils de gestion qui peuvent être utilement caractérisés par les catégories de la segmentation[7]. Une typologie des secteurs est établie à partir de leur proximité aux profils mis en évidence.

Profil 1 : Des marchés internes en rétrécissement

Dans le premier pôle, les emplois instables et le temps partiel sont pratiquement absents, la structure des qualifications révèle une prépondérance des catégories de maîtrise et d'encadrement et la main-d'œuvre est majoritairement composée d'hommes âgés. Les secteurs sont caractérisés par une concentration forte des entreprises et une intensité capitalistique élevée, le taux de participation à la formation

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[7] L'usage de telles catégories se veut descriptif, il est abusif pour une analyse statique des conditions d'emploi, il souligne l'inscription théorique de l'analyse, qu'il reste à affiner, dans les problématiques de la segmentation des marchés du travail.

continue professionnelle est très important mais les effectifs salariés marquent une forte baisse en 1992.

Les secteurs qui structurent ce groupe sont principalement les secteurs de l'énergie (combustibles minéraux, pétrole, électricité, gaz et eau), les secteurs de la production de minéraux et métaux ferreux et non ferreux et de la construction navale et aéronautique. Non loin de ces secteurs prototypes de marché interne se situent les secteurs de la chimie, du verre, des matériaux de construction, des transports et du commerce de gros non alimentaire. On peut penser que l'hétérogénéité de ces secteurs contribue à les faire apparaître moins nettement dans ce type de profil de gestion de la main-d'œuvre. Ce dernier est caractéristique des marchés internes de l'industrie. Concernant les jeunes, ces types de marchés se distinguent par un accès très sélectif et l'occupation d'une part de postes d'encadrement et de maîtrise par les plus âgés (actifs ayant entre 26 et 29 ans) et les plus diplômés, et d'autre part par l'accès à des qualifications ouvrières dans les secteurs proches des prototypes.

Profil 2 : Des marchés externes stabilisés

Le second pôle présente des caractéristiques inverses. La main-d'œuvre est jeune, plutôt féminine, les effectifs sont en faible baisse pour 1992, les qualifications se concentrent sur les postes d'employés et d'ouvriers et le recours au temps partiel est intense. Les secteurs sont caractérisés par une intensité capitalistique très faible, une concentration relativement faible et un taux de participation à la formation continue très bas.

Ce pôle est bien représenté par des secteurs comme ceux du commerce de détail, de l'hôtellerie-restauration, des services marchands aux particuliers. Le secteur des assurances, de la location, crédit-bail immobilier et celui des services non marchands en sont proches et on peut y voir la trace d'une segmentation flexible propre aux activités de services qui font coexister des formes d'emploi stables et instables. En ce qui concerne l'industrie, les secteurs du textile-habillement et de l'imprimerie, presse, édition en sont proches. Toutefois, ce profil de gestion de la main-d'œuvre apparaît caractéristique des marchés externes des secteurs du tertiaire. La part des 18-25 ans dans ces secteurs marque une baisse identique à la celle affectant en moyenne l'ensemble des secteurs entre 1982 et 1992 (sauf dans l'hôtellerie-restauration où elle augmente de 4 %).

Tableau 2
Les profils sectoriels de gestion de la main-d'œuvre juvénile

	Profil 1 Marché interne en rétrécissement	Profil 2 Marché externe stabilisé	Profil 3 Marché interne en croissance	Profil 4 Marché externe et professionnel
Caractéristiques de la main-d'œuvre	hommes 26-29 ans diplômés bac et supérieur	femmes 18-25 ans	femmes 26-29 ans diplômées bac et supérieur	hommes et femmes 18-25 ans diplômés BEP-CAP
Caractéristiques des emplois	Temps partiel et emploi hors CDI nuls durée hebdomadaire forte cadres et professions intermédiaires	Temps partiel et emplois hors CDI très élevés durée hebdomadaire très faible employés	Temps partiel fort durée hebdomadaire faible cadres et professions intermédiaires	Temps partiel faible durée hebdomadaire élevée ouvriers non qualifiés et ouvriers qualifiés
Caractéristiques sectorielles	effectifs en forte baisse Part des 18-25 ans en forte baisse intensité capitalistique élevée participation à la FPC forte	effectifs en faible baisse Part des 18-25 ans en faible baisse intensité capitalistique faible participation à la FPC faible	effectifs en hausse Part des 18-25 ans en forte baisse forte concentration participation à la FPC forte	effectif en baisse moyenne Part des 18-25 ans en baisse moyenne faible concentration participation à la FPC faible
Secteurs (NAP 40)	*Maîtrise et cadres* : Prod. de minerais et métaux ferreux Prod. de combustibles minéraux Prod. de pétrole et de gaz Construction navale et aéronautique Industrie du verre Chimie de base *Ouvriers:* Commerce de gros non alimentaire Transports Distribution d'électricité, gaz, eau Prod. de minerais et métaux non ferreux Prod. de matériaux de construction	Commerce de détail alimentaire Commerce de détail non alimentaire Hôtels-restaurants Services marchands aux particuliers Location crédit-bail immobilier	Industrie pharmaceutique Industrie du papier et du carton Services marchands aux entreprises Assurances Organismes financiers Services non marchands	Industrie de la viande et du lait Autres IAA Travail des métaux Construction électrique Construction mécanique Matériel de transport Industrie textile et habillement Industrie du cuir et de la chaussure Industrie du bois Imprimerie, presse, édition Industrie du caoutchouc BTP Commerce de gros alimentaire Réparation et commerce automobile
% de l'emploi des 18-29 ans*	9,8	28,5	30,2	31,5
% de l'emploi total*	12,1	24,6	35	28,3

*Source : Enquête Emploi, INSEE, 1992.

Profil 3 : Des marchés internes en croissance

Un troisième groupe de secteurs se distingue par une prépondérance des postes d'employés et de professions intermédiaires, pour une main-d'œuvre majoritairement féminine et plutôt âgée, un fort recours au temps partiel, des effectifs en progression et un taux de participation à la formation professionnelle moyen.

On trouve dans ce groupe principalement les secteurs des services marchands aux entreprises, des locations et crédit-bail immobiliers, mais aussi les assurances et les services non marchands. Des secteurs industriels en sont proches, tel que celui de l'industrie pharmaceutique et parachimique et l'industrie du papier-carton. La forte baisse de l'emploi des 18-25 ans dans ce groupe entre 1982 et 1992 atteste d'une fermeture de ces activités à la main-d'œuvre juvénile et la structure des qualifications le rapproche du mode de fonctionnement du premier pôle. Le profil 3 caractérise des marchés internes du tertiaire dont les effectifs sont en augmentation et qui semblent constituer des segments de stabilisation pour les jeunes femmes diplômées.

Profil 4 : Des marchés externes et professionnels

On peut caractériser un quatrième profil de gestion de la main-d'œuvre qui concerne les industries de biens intermédiaires (métaux, bois, caoutchouc) et de biens de consommation (viande et lait, autres industries alimentaires et agricoles, cuir-chaussure) ainsi que le BTP, le secteur du commerce de gros alimentaire et le secteur de la réparation et du commerce automobile.

Au sein de ces secteurs, la main-d'œuvre est majoritairement jeune et plutôt masculine, à faible temps partiel et affectée à des postes d'ouvriers qualifiés et non qualifiés. La participation à la formation continue est faible hormis dans le secteur du caoutchouc. Les effectifs baissent fortement dans les industries agro-alimentaires, le travail des métaux et l'industrie du bois, et plus faiblement dans les autres secteurs. Ce groupe se rapproche du second pôle par une évolution moyenne de la part des 18-25 ans dans les effectifs salariés et des mouvements d'appel-rejet de la main-d'œuvre importants. Ce profil peut constituer un mixte entre un marché externe de faible qualification et ayant peu recours à la formation continue et un marché professionnel dont l'entrée est réservée aux diplômés des BEP-CAP pour les secteurs recrutant des ouvriers qualifiés.

3.2. Les modes de gestion de la main-d'œuvre dans les secteurs du tertiaire

Les activités du tertiaire emploient aujourd'hui les deux tiers de la population active française, mais leurs modes de gestion de la main-d'œuvre sont encore assez mal connus. Les recherches actuelles portent sur des tentatives de typologie des systèmes d'emploi au sein du secteur tertiaire, concept flou qui recouvre des activités hétérogènes (Bertrand, 1988 ; Broussole, 1995).

On a vu dans la typologie précédente que la distinction secondaire / tertiaire était très prégnante dans les modes de gestion de la main-d'œuvre. Plusieurs considérations amènent à penser que ce qui serait valable pour l'industrie en terme d'organisation des systèmes d'emploi, l'est moins pour le tertiaire au sein duquel certaines activités sont

en pleine structuration, ont une organisation de branche récente et développent des modèles de gestion de la main-d'œuvre diversifiés reposant sur l'éclatement des formes de segmentation (Gadrey, 1991). D'autre part, les qualifications au sein des activités de service sont moins nettement définies que dans les activités industrielles en termes de classification, hiérarchisation et fonctions. Les jeunes actifs sont souvent déclassés lors de leur recrutement, et les mobilités semblent plus vives.

3.2.1. Les différenciations de la main-d'œuvre jeune au sein des secteurs du tertiaire

Le premier mode de distinction des profils sectoriels au sein du tertiaire repose sur l'étroite association entre les caractéristiques de sexe et de qualification des individus. L'âge apparaît comme déterminant de l'accès à certains secteurs, les jeunes ayant entre 26 et 29 ans sont présents dans des secteurs caractérisés par des effectifs en hausse et par une forte participation à la formation professionnelle. A un pôle se trouvent la main-d'œuvre féminine, diplômée de niveau bac et plus, plutôt expérimentée, et les postes de cadres, professions intermédiaires et employés offrant des salaires relativement élevés mais fortement à temps partiel. De l'autre côté se situent la main-d'œuvre masculine, récente sur le marché du travail, diplômée des niveaux CAP et BEP, et les qualifications ouvrières avec un moindre recours au temps partiel.

Cette distinction principale s'accompagne d'une forte différenciation entre les secteurs très sélectifs à l'égard des jeunes et qui embauchent sous CDI en recrutant pourtant fréquemment des débutants (transports, location, crédit-bail immobilier, organismes financiers) et ceux qui embauchent hors CDI des jeunes issus de l'école depuis plus de deux ans mais souvent sans diplôme (commerce de gros alimentaire, hôtels-restaurants).

3.2.2. Les profils de gestion de la main-d'œuvre et la typologie des secteurs

Les profils de gestion de la main-d'œuvre jeune mis en évidence correspondent globalement à ceux de la typologie concernant l'ensemble de la main-d'œuvre du tertiaire développée par Bertrand (1988) qui distinguait trois groupes : le tertiaire technico-administratif et socioculturel (services non marchands, assurances, finances, télécommunication et postes, services marchands, socioculturel), les services commerciaux et personnels (commerce de détail alimentaire et non alimentaire, hôtels-restaurants, services divers aux particuliers) et le tertiaire « para-industriel » (commerce de gros alimentaire et non alimentaire, transports, réparations automobiles et diverses).
Les modes de gestion développés au sein de ces groupes ont chacun un recours différencié aux jeunes actifs. Le premier privilégie les femmes ayant entre 26 et 29 ans, diplômées du supérieur, le second fait également appel aux femmes mais plus jeunes et moins diplômées, le troisième occupe surtout des hommes jeunes, souvent non diplômés, dans le commerce de gros alimentaire et les services de réparation, et des hommes plus âgés et diplômés du secondaire pour les transports et le commerce de gros non alimentaire.
Cette subdivision du troisième groupe semble correspondre principalement à des structures de qualification différentes au sein de ces activités - avec une majorité d'ouvriers non-qualifiés, et de type artisanale, dans le premier sous-groupe - qui

influent directement sur la place des jeunes au sein des entreprises. De même, la typologie développée par Broussolle (1995), qui distingue au sein du tertiaire technico-administratif les services collectifs (services non marchands, santé et action sociale) des services marchands (services aux entreprises, assurances, organismes financiers) s'applique mal à notre étude car la main-d'œuvre juvénile est faiblement présente au sein de ces secteurs.

Tableau 3
**Les profils sectoriels de gestion de la main-d'œuvre
dans les secteurs du tertiaire**

	Marché interne en croissance	Marché externe stabilisé	Marché externe et professionnel
Caractéristiques de la main-d'œuvre	Femmes 26-29 ans Bac et supérieur	Femmes 18-25 ans Bac et inférieur	Hommes 18-25 ans, 26-29 ans BEP-CAP
Caractéristiques des emplois	Taux de temps partiel fort Taux d'emploi hors CDI faible Cadres, professions intermédiaires	Taux de temps partiel et d'emploi hors CDI forts Employés et ouvriers non qualifiés	Taux de temps partiel très faible Taux d'emploi hors CDI plutôt élevé Ouvriers qualifiés et non qualifiés
Caractéristiques sectorielles	Effectifs en hausse Part des 18-25 ans en forte baisse Intensité capitalistique plutôt forte Participation à la FPC forte	Effectifs en baisse Part des 18-25 ans en faible baisse Intensité capitalistique faible Participation à la FPC faible	Effectifs en faible baisse Part des 18-25 ans en baisse moyenne Intensité capitalistique faible Concentration faible Participation à la FPC faible
Secteurs (NAP 40)	Services marchands aux entreprises Organismes financiers Assurances Location, crédit-bail Services non marchands	Services marchands aux particuliers Commerce de détail alimentaire Commerce de détail non alimentaire Hôtels-restaurants	Transports Commerce de gros alimentaire Commerce de gros non alimentaire Réparation et commerce automobile
% de l'emploi total *	33,9	23,2	11,1
% de l'emploi des 18-29 ans *	28,9	28,2	10,2

*Source : Enquête Emploi, INSEE, 1992.

En conclusion de ces premiers traitements, il ne semble pas apparaître de configurations spécifiques aux jeunes quant aux modes sectoriels de gestion de la main-d'œuvre. Ils connaissent les formes de segmentation qui prévalent pour l'ensemble de la main-d'œuvre. Les différents types de marchés du travail (marchés internes, marchés externes, marchés professionnels) et leurs logiques propres de fonctionnement apparaissent dès lors déterminants des modalités d'accès à l'emploi des jeunes et des différenciations existantes au sein de la main-d'œuvre juvénile.

3.3. Typologies sectorielles et facteurs de différenciation de la main-d'œuvre jeune selon l'âge et le sexe

En complément de l'analyse sur l'ensemble de la main-d'œuvre jeune, des analyses parallèles ont été menées en reprenant les distinctions majeures en termes d'âge et de sexe. Ces analyses dégagent des profils de gestion de la main-d'œuvre qui ne seront pas traduits en typologie mais qui donnent les formes de segmentation existantes au sein de sous-populations de la main-d'œuvre jeune et qui identifient les secteurs porteurs de ces différenciations[8].

3.3.1. Pour les 18-25 et les 26-29 ans

L'âge étant une variable déterminante des rapports à l'emploi, la comparaison des profils sectoriels sur ces deux sous-populations doit conduire à voir d'une part les variables les plus différenciatrices selon l'âge, et d'autre part les changements éventuels dans le positionnement relatif des secteurs en termes de gestion de ces deux types de main-d'œuvre.

Pour les actifs ayant entre 18 et 25 ans, la distinction entre industrie et tertiaire est très prégnante avec d'un côté les secteurs à main-d'œuvre masculine, diplômée du secondaire pour celle occupant des postes d'ouvriers qualifiés, et plutôt ancienne sur le marché du travail (transports, travail des métaux, construction électrique, imprimerie-presse, réparation et commerce automobile) et de l'autre côté les secteurs à main-d'œuvre plutôt féminine, diplômée bac et plus, souvent à temps partiel sur des postes d'employés (commerce de détail, services marchands et non marchands, hôtels-restaurants). On trouve réunis ici les secteurs dits d'insertion qui différencient leur appel à la main-d'œuvre jeune en fonction du sexe et du diplôme.

Pour les actifs ayant entre 26 et 29 ans, le rôle différenciateur du diplôme s'estompe au profit de celui de l'ancienneté sur le marché du travail, ces deux variables étant toutefois étroitement liées dans une relation inverse entre le temps écoulé depuis la sortie de l'école et le diplôme atteint. Ce sont les modalités de statut et de temps de travail qui apparaissent comme des dimensions d'emploi discriminantes dans cette classe d'âge.

Comparée aux 18-25 ans, l'ancienneté sur le marché du travail permet la stabilisation de jeunes diplômés des CAP-BEP dans les secteurs dits à gestion interne (secteurs de l'énergie et des biens intermédiaires) ; mais une partie d'entre eux restent captifs des marchés externes des secteurs des industries agro-alimentaires, du BTP, du commerce de détail, de l'hôtellerie-restauration. Les salaires y sont plus faibles et les statuts plus instables. Pour les jeunes plus récemment arrivés sur le marché du travail, qui sont également les plus diplômés, les modes de gestion des secteurs se distinguent par un recours plus ou moins intense au temps partiel et aux contrats hors CDI qui se décline selon le sexe des actifs et l'opposition industrie / tertiaire.

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[8] Pour ces analyses, on ne présente que les distinctions principales (premier et deuxième axes) qui sont les plus significatives eu égard aux effectifs concernés.

Le niveau du salaire horaire apparaît pour chaque sous-population dans des relations contradictoires : pour les 18-25 ans, les taux élevés distinguent des secteurs à main-d'œuvre peu diplômée mais ancienne dans l'entreprise, pour les 26-29 ans, les taux élevés sont liés aux postes offerts aux plus diplômés qui débutent.

Les analyses pour les secteurs du tertiaire sur la main-d'œuvre jeune différenciée selon les deux classes d'âge des 18-25 ans et des 26-29 ans apportent des éclairages intéressants sur les types de marché du travail de ces secteurs.

Le rôle de l'ancienneté sur le marché du travail apparaît clairement dans l'affectation de la main-d'œuvre. Dans le tertiaire, les débutants sont confrontés à la précarité, qu'elle soit de statut ou de temps de travail et ce, quels que soient leur niveau de formation et les postes qu'ils occupent. Les services marchands et non marchands se caractérisent par une gestion flexible d'une main-d'œuvre qualifiée, en attente de stabilisation au sein des marchés internes de ces secteurs. Se trouve ainsi confirmé le rôle des emplois du tertiaire dans la précarisation du processus d'insertion professionnelle.

3.3.2. Pour les femmes et les hommes

L'examen des différenciations des modes de gestion sur les sous-populations des hommes et des femmes renvoie à des distinctions bien connues au sein du système d'emploi.

Les variables de différenciation de la main-d'œuvre sont relativement proches pour les deux sexes mais l'homogénéité relative de l'emploi féminin à temps partiel explique le fait que cette variable ne soit pas discriminante des modes de gestion de la main-d'œuvre féminine. Les secteurs n'ont pas le même poids dans ces différenciations mais leur rôle respectif est à relier à la répartition homme / femme au sein du système productif. Toutefois, certains secteurs plutôt féminins semblent ouverts aux jeunes hommes mais avec acceptation de salaires faibles (industrie viande et lait, commerce de détail non alimentaire) et quelques secteurs plutôt masculins accueillent des jeunes femmes mais sous conditions de diplôme supérieur au bac (BTP, transport, assurances).

La segmentation par âge joue beaucoup plus pour les jeunes femmes, et la forte distinction entre emplois primaires et secondaires ne relève pas tant des statuts d'emploi (le pourcentage d'emplois hors CDI étant relativement élevé dans la majorité des secteurs) que de l'accès à des professions qualifiées.

Le sexe apparaît encore plus nettement différenciateur au sein du groupe des secteurs du tertiaire que sur l'ensemble des secteurs. Les modes de gestion des main-d'œuvre féminine et masculine sont-ils eux aussi plus distincts ? En fait, les distinctions des modes de gestion de la main-d'œuvre féminine au sein des secteurs tertiaires reposent, plus que pour les hommes, sur des critères de qualification (du poste et de l'individu en termes de diplôme et/ou d'expérience) et de salaire. Le recours au temps partiel différencie les secteurs à main-d'œuvre masculine et oppose le tertiaire para-industriel qui utilise des jeunes diplômés du secondaire pour des postes d'ouvriers, au tertiaire technico-administratif.

4. LES APPORTS DES ANALYSES EN TERMES DE GESTION DE LA MAIN-D'ŒUVRE

Les logiques sectorielles révèlent les effets structurants des modes de gestion de la main-d'œuvre sur l'emploi des jeunes

Notre analyse a permis de dégager les rapports existants entre modes de gestion de la main-d'œuvre et emploi des jeunes dans les secteurs d'activité. Plusieurs résultats importants apparaissent concernant les logiques sectorielles mises à jour.

D'une part, elles n'apparaissent pas spécifiques à une main-d'œuvre au sens où elles ne diffèrent pas pour la main-d'œuvre jeune des configurations apparues pour l'ensemble de la main-d'œuvre. D'autre part, elles font jouer des rôles plus ou moins importants aux variables déterminantes des processus d'insertion que sont principalement le sexe, l'âge et le niveau de diplôme. Selon leurs pratiques de gestion de la main-d'œuvre, les secteurs se réfèrent à certaines caractéristiques des individus plus qu'à d'autres. C'est notamment les différences en termes de sexe qui apparaissent prégnantes et étroitement associées à l'usage du temps partiel. La structure des qualifications est également sexuée par l'opposition ouvriers / employés. Enfin, les secteurs les plus sélectifs à l'égard des jeunes s'avèrent être ceux qui ont le plus fort recours aux jeunes les plus diplômés.

Les modalités d'usage de la main-d'œuvre juvénile sont différenciées selon les modes de fonctionnement des marchés du travail. Bien que les indicateurs de mobilité soient sommaires (ancienneté en entreprise, statut d'emploi), les caractéristiques des actifs et des emplois permettent de distinguer les secteurs selon leur organisation dominante en marché du travail de type interne, externe ou professionnel (ce dernier type étant le plus difficilement appréhendable). Les analyses portant sur le tertiaire et celles portant sur les deux classes (18-25 ans, 26-29 ans) font clairement apparaître le rôle de l'ancienneté sur le marché du travail. Celui-ci est synonyme de stabilité et de qualification pour les jeunes insérés dans les secteurs à gestion interne de la main-d'œuvre. Pour les autres situés sur les marchés externes et professionnels, la concurrence avec les autres actifs dans l'accès aux emplois est plus rude, la stabilisation et l'accès à des emplois qualifiés plus difficiles.

La stabilité des configurations sectorielles de l'emploi des jeunes confirme le rôle déterminant des modes de fonctionnement des marchés du travail

La comparaison des typologies construites avec celles du début des années 80 fait apparaître la stabilité des voies d'entrée en emploi des jeunes et le caractère structurel des caractéristiques d'emploi des jeunes au sein du système productif. Malgré les évolutions fortes du système d'emploi durant la décennie 80, la place des jeunes au sein des différents secteurs d'activité ne varie qu'en volume, avec une baisse significative des jeunes en emploi, mais pas réellement en ce qui concerne les modes de gestion des secteurs d'affectation privilégiée de la main-d'œuvre juvénile.
La stabilité de la configuration sectorielle de l'emploi des jeunes s'accompagne de celle de l'utilisation des dispositifs publics d'insertion. Par une comparaison de la répartition sectorielle des mesures d'aide à l'insertion en 1977 et 1993, Gautié (1995) souligne qu' « *il est particulièrement intéressant de noter que plus de 15 ans plus*

tard, les secteurs et les types d'établissements qui recourent aux différentes mesures sont les mêmes [...]. Loin de contrecarrer le mouvement d'exclusion sélective [...], la politique de l'emploi en faveur des jeunes au contraire le renforcerait, en participant à la secondarisation du marché du travail » (p.237).

On peut rapprocher les typologies établies avec d'autres travaux qui montrent le poids sur l'insertion professionnelle des logiques d'usage des statuts d'embauche (Lochet, 1995). Au sein des marchés internes se situent les secteurs où les CDI durables et à temps plein dominent et où le recours au CDD (contrat à durée déterminée) relève, plus qu'ailleurs, d'une logique de préembauche. La présence d'un temps de formation dans l'emploi est plus fréquente et le recours aux formes particulières d'emploi est transitoire (secteurs de l'énergie, secteurs des biens intermédiaires et biens d'équipement). A l'opposé, l'usage de CDI atypiques (c'est-à-dire à temps partiel et instables) relève des secteurs des marchés externes typiques tels que l'hôtellerie-restauration et les IAA. Ces secteurs pratiquent également la « rétention » de la main-d'œuvre jeune sur des statuts précaires, avec le CDD comme principal instrument.

L'articulation entre mode de fonctionnement des marchés du travail et modalités d'accès à l'emploi des jeunes : problèmes d'analyse et d'interprétation

La mise en évidence de logiques sectorielles est une étape dans la caractérisation des modes d'usage de la main-d'œuvre juvénile. En effet, la segmentation de la main-d'œuvre et des emplois au niveau sectoriel est plus ou moins nette. La diversité des pratiques sectorielles permet certes d'établir des grands clivages entre secteurs de stabilisation et secteurs « précarisants », entre secteurs à main-d'œuvre qualifiée et secteurs sous-utilisant la qualification des jeunes actifs. Mais le niveau sectoriel ne compose pour ainsi dire qu'une moyenne des conditions d'emplois dans des entreprises aux conditions de production et d'organisation souvent très diverses.

Les pratiques de recrutement et de mobilité de la main-d'œuvre juvénile diffèrent entre les entreprises d'un même secteur selon leur taille. Si les petites unités ont tendance à plus recruter sur des contrats à durée indéterminée, elles sont également celles où les jeunes actifs sont les plus mobiles (Bruand, 1991). D'autres établissements de grande taille pratiquent une rétention de la main-d'œuvre jeune sur des statuts précaires (Lochet, 1994). L'analyse à un niveau plus fin s'avère indispensable. L'approfondissement de l'articulation entre mode de fonctionnement du marché du travail et emploi des jeunes, et notamment de la relation formation-emploi, consiste à étudier les pratiques d'entreprises d'un même secteur afin d'évaluer leur marge de manœuvre dans la gestion de la main-d'œuvre.

D'autre part, la démarche au niveau sectoriel pose problème pour une comparaison internationale. Ainsi, les configurations de l'emploi des jeunes au niveau sectoriel sont-elles comparables entre deux pays présentant des espaces de régulation de la relation formation-emploi distincts ? On pense notamment à la perspective d'une comparaison avec la Grande-Bretagne qui serait à même d'éclairer à la fois les spécificités françaises dans la mise au travail des jeunes et l'évolution des typologies marché interne / certification scolaire et marché professionnel / apprentissage. Le secteur d'activité reste t-il dans ce cas un niveau d'analyse pertinent ?

Enfin, on cherche toujours un cadre théorique pertinent pour l'interprétation du processus d'insertion. Il semble que les analyses en termes d'appel-rejet de la main-d'œuvre soient porteuses dans le sens où elles mettent en évidence ce qui produit les difficultés d'insertion professionnelle au sein du système productif. L'interprétation des voies d'accès à l'emploi en terme de catégorisation du salariat permet de comprendre le rôle sexué des qualifications et les attributs des emplois en termes de temps de travail et de stabilité de statut comme des leviers de contrôle et de flexibilisation de la main-d'œuvre et de son usage.

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ANNEXES

• Les secteurs retenus dans l'analyse

numéro d'individu et code en NAP 40

Individu	Secteurs d'activité	NAP 40
1	Industrie de la viande et du lait	2
2	Autres industries agro-alimentaires	3
3	Production de combustibles minéraux	4
4	Production de pétrole et de gaz naturel	5
5	Distribution d'électricité, de gaz et d'eau	6
6	Production de minerais et métaux ferreux	7
7	Production de minerais et métaux non ferreux	8
8	Production de matériaux de construction	9
9	Industrie du verre	10
10	Chimie de base	11
11	Industries pharmaceutique et parachimique	12
12	Travail des métaux	13
13	Construction mécanique	14
14	Construction électrique	15
15	Construction de matériel de transport	16
16	Construction navale et aéronautique	17
17	Industrie textile et de l'habillement	18
18	Industrie du cuir et de la chaussure	19
19	Industrie du bois et de l'ameublement	20
20	Industrie du papier et du carton	21
21	Imprimerie, presse, édition	22
22	Industrie du caoutchouc	23
23	Bâtiment, génie civil et agricole	24
24	Commerce de gros alimentaire	25
25	Commerce de gros non alimentaire	26
26	Commerce de détail alimentaire	27
27	Commerce de détail non alimentaire	28
28	Réparation et commerce automobile	29
29	Hôtels, cafés, restaurants	30
30	Transports	31
31	Services marchands aux entreprises	33
32	Services marchands aux particuliers	34
33	Location, crédit-bail immobilier	35
34	Assurances	36
35	Organismes financiers	37
36	Services non marchands	38

Le choix de la nomenclature des secteurs d'activité en NAP 40 conduit à regrouper des activités parfois très hétérogènes au sein d'un même secteur (par exemple le secteur du commerce de détail regroupe les grandes surfaces et les commerces dits de proximité dont on peut penser qu'ils ont des structures de production et d'organisation bien distincts). Il a semblé hasardeux d'utiliser une nomenclature plus fine (type NAP 100) pour l'étude de l'emploi des salariés de moins de trente ans dont les effectifs n'apparaissent pas significatifs à ce niveau d'observation.

D'autre part, ont été exclus de l'analyse le secteur de l'agriculture (absence d'exhaustivité due à sa non immatriculation dans le fichier SIRENE) et le secteur des Postes et télécommunication (taux de couverture trop faible dans la plupart des sources). Finalement, les analyses portent au mieux sur trente-six secteurs et sur trente et un dans le cas des analyses sur la main-d'œuvre féminine. Pour les analyses menées sur le tertiaire ont été retenus les individus 24 à 36.

• **Les variables de l'analyse**

Les tableaux suivants récapitulent les variables de l'analyse, leurs modalités et les sources statistiques utilisées dans le cadre des analyses factorielles portant sur l'ensemble de la main-d'œuvre des secteurs et celles portant sur la main-d'œuvre de moins de 30 ans. Les variables relatives à la caractérisation des secteurs n'apparaissent que dans le premier tableau car ce sont les mêmes qui ont été utilisées pour les analyses sur les jeunes.

Les variables de sexe et d'âge ont été regroupées en une seule variable qualitative, afin d'éviter un trop grand nombre de modalités caractérisant les actifs (ce qui donnerait trop de poids à ces indicateurs dans l'analyse). Les modalités de cette variable composite sont déterminées en fonction de la forte proportion des individus concernés par rapport à la moyenne. De même, la structure des qualifications au sein de chaque secteur a été appréhendée à partir des parts de chaque catégorie (cadres, professions intermédiaires, ouvriers, ouvriers non qualifiés) et synthétisée dans une variable qualitative prenant comme valeur la catégorie sur-représentée par rapport à la moyenne.

Enfin, certaines valeurs moyennes ont été attribuées à des variables non disponibles pour certains secteurs (par exemple les déclarations des mouvements de main-d'œuvre dans les établissements de plus de 50 salariés ne prennent pas en compte les secteurs du commerce de détail). Il convient donc de prendre des précautions dans l'interprétation des résultats.

Les variables de l'analyse sur l'ensemble de la main-d'œuvre

Variables	Modalités	Sources
Age et sexe des actifs (SAGE)	FJ : femmes 18-25 ans FM : femmes 25-49 ans FA : femmes 50 ans et plus HJ : hommes 18-25 ans HM : hommes 25-49 ans HA : hommes 50 ans et plus	Enquête Emploi 1992
Taux d'évolution du volume d'emploi en 1992 (TEVOL) moy. = -2,3 %	EV1 : baisse forte (- 6,6 à -3,5 %) EV2 : baisse moyenne (-3,5 à -2,1 %) EV3 : baisse faible (-2,1 à +0,6 %) EV4 : hausse (de +0,6 à +2,2 %)	DMMO 1992
Taux d'évolution de la part des 18-25 ans dans l'emploi total (EVJ) moy. = -30 %	EJ1 = forte baisse (-100 à -47 %) EJ2 = baisse moyenne (-47 à -34 %) EJ3 = baisse faible à hausse (-34 à +12 %)	
Taux d'emploi hors CDI moy.= 5 %	FP1 : taux faible (0 à 3,1 %) FP2 : taux moyen (3,1 à 4,7 %) FP3 : taux élevé (4,7 à 10 %)	
Taux d'emploi à temps partiel (TPART) moy. = 7 %	TP1 : temps partiel < moyenne TP2 : temps partiel > moyenne	Enquête Emploi 1992
Structure des qualifications (CSP)	CP1 : cadres et professions interm. CP2 : employés CP3 : ouvriers CP4 : ouvriers non qualifiés	Enquête Structure des Emplois 1992
Durée hebdomadaire du travail (HEBDO) moy. = 38,9h	HE1 : durée hebdo. faible (33,5h-38,9h) HE2 : durée hebdo. forte (38,9h-41,2h)	Enquête Emploi 1992
Taux de participation à la formation continue (TPF) moy. = 3,1 % de la masse salariale	TF1 : taux très faible (1,4 à 1,8 %) TF2 : taux faible (1,8 à 2,2 %) TF3 : taux moyen (2,2 à 3,9 %) TF4 : taux fort (3,8 à 8 %)	Formulaires 24-83
Concentration du secteur (CONC)	CO1 : faible concentration CO2 : concentration moyenne CO3 : concentration forte CO4 : concentration très forte	Système productif 1992
Intensité capitalistique (IK)	IK1 : intensité très faible IK2 : intensité faible IK3 : intensité moyenne IK4 : intensité forte	Système productif 1992
Chiffre d'affaire net (CANET)	CA1 : CA net très faible CA2 : CA net faible CA3 : CA net fort CA4 : CA net très fort	Système productif 1992
Taux d'exportation (TEX)	XP1 : taux d'exportation faible XP2 : taux d'exportation moyen XP3 : taux d'exportation fort	Système productif 1992

Les variables des analyses sur la main-d'œuvre juvénile

Variables	Modalités	Sources
Age et sexe des actifs (SAJ)	HA : hommes 26-29 ans HJ : hommes 18-25 ans FA : femmes 26-29 ans FJ : femmes 18-25 ans	Enquête Jeunes 1992*
Diplômes des actifs (DJ)	DJ1 : sans diplôme DJ2 : BEP-CAP DJ3 : bac et supérieur DJ4 : bac et BEP-CAP	Enquête Jeunes 1992
Ancienneté en entreprise (ANJ)	AE1 : moins d'un an AE2 : plus d'un an	Enquête Jeunes 1992
Taux d'emplois à temps partiel (TPJ) moy. = 15,2 %	TP1 : taux très faible (<3 %) TP2 : taux faible (<7 %) TP3 : taux moyen (7-15 %) TP4 : taux très élevé (>15 %)	Enquête Jeunes 1992
Structure des qualifications (CPJ)	CP1 : ONQ>30 % CP2 : ouvriers CP3 : cadres et professions intermédiaires CP4 : employés	Enquête Jeunes 1992
Taux d'emplois hors contrat à durée indéterminée (FPJ) moy. = 16,2 %	FP1 : taux très faible (<5 %) FP2 : taux faible (5-10 %) FP3 : taux moyen (10-16 %) FP4 : taux élevé (>16 %)	Enquête Jeunes 1992
Taux de salaire horaire (SALH)	SA1 : de 32 à moins de 35 F SA2 : de 35 à moins de 40 F SA3 : de 40 à moins de 45,4 F SA4 : plus de 45,4 F	Enquête Jeunes 1992
Part relative des jeunes dans l'emploi du secteur (PRJ)	PR1 : secteur sélectif PR2 : part des jeunes équivalente PR3 : secteur plus ouvert aux jeunes	Enquête Emploi 1992 et Enquête Jeunes 1992
Part des débutants parmi les jeunes salariés (sortis du système éducatif depuis moins de 2 ans) (MT) moy. = 15 %	MT1 : part très faible MT2 : part faible MT3 : part moyenne MT4 : part élevée	Enquête Jeunes 1992

* Enquête complémentaire à l'Enquête Emploi réalisée en 1992 par l'INSEE auprès de 10 000 jeunes de 18 à 29 ans.

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L'ACCÈS A L'EMPLOI DES JEUNES :
NIVEAUX D'ANALYSE, APPROCHES EN TERMES DE
MARCHÉ ET CONSTRUCTION SOCIALE DE L'EMPLOI

José Rose

Résumé

Cet article propose une réflexion sur les conditions actuelles d'accès à l'emploi des jeunes et la façon dont elles sont analysées et interprétées, ceci à partir d'une recherche contractuelle qui vient de s'achever.
Ce travail contribue à plusieurs débats, d'ordre à la fois méthodologique et théorique et qui concernent l'interprétation du processus d'accès à l'emploi des jeunes et notamment le rôle structurant des entreprises. Bien que la recherche ne porte que sur le cas français, il est possible d'en tirer quelques conclusions sur les rapports entre analyses théoriques et empiriques de l'insertion professionnelle des jeunes susceptibles d'être transposées à l'autres pays.

Abstract

Young People Access to Employment: Labour Market Theory vs. Social Construction of Employment

This paper analyses the current characteristics of youth access to the labor market and the way they are usually presented and interpreted. Under a contract of the Education Department, this study involved three parts: the first one is presented in Moncel's paper. My paper provides a summary of the whole study entitled "The use of the youth Labor force by firms and industrial sectors; general features and presentation of a case study : blue-collar and white collars employment in three sectors of the services. Our paper underlines the structuring role played by firms regarding youth employment. Though the data involve only French case studies, our theoretical and empirical views concerning youth transition to employment can also be applied to other foreign countries.

INTRODUCTION

L'accès des jeunes à l'emploi est une question très présente dans le débat social depuis de nombreuses années. Elle suscite de nombreuses interrogations concernant les éventuelles spécificités de l'emploi des jeunes (accès difficile, précarité des situations), leurs raisons (formation inadaptée, comportement des jeunes, pratiques sélectives des entreprises...) et les possibilités de les réduire par les politiques publiques d'emploi. Afin d'éclairer certains aspects de ce problème, la Direction des lycées et collèges du ministère de l'Éducation nationale a soutenu plusieurs recherches dont celle dont nous restituons ici les résultats.

Ce sujet a des enjeux théoriques d'importance puisqu'il interroge aussi bien les théories du marché du travail, et notamment celles qui le considèrent comme segmenté, que les théories qui tentent de rendre compte des relations entre formation et emploi, de l'organisation de la transition professionnelle et de la catégorie de jeunesse.

Il n'était évidemment pas possible d'approfondir l'ensemble de ces sujets. Et surtout, il était nécessaire de privilégier un angle d'attaque. Dans le prolongement de travaux conduits antérieurement par notre équipe (Rose, 1984), nous avons privilégié une approche de l'accès à l'emploi des jeunes à partir des pratiques des entreprises et des secteurs d'activité, en postulant le rôle structurant des premières et une certaine homogénéité des seconds. L'objet général de la recherche est donc la description et l'interprétation des modalités d'usage de la main-d'œuvre juvénile par le système productif. Ont ainsi été interrogées les caractéristiques de recrutement, d'affectation aux emplois, de formation et de rémunération des jeunes et, dans le même temps, précisées l'éventuelle spécificité des jeunes sur le marché du travail, les formes de mobilités et de segmentation qu'elles manifestent et le poids respectif des politiques d'entreprises et des logiques sectorielles dans la structuration de l'emploi juvénile.

En pratique, la recherche s'est limitée à quelques secteurs du tertiaire (la grande distribution, les entreprises de propreté) ; elle s'est polarisée sur les jeunes de moins de trente ans, ouvriers et employés, et a porté sur l'ensemble des dimensions du rapport salarial, en particulier la mobilité, le travail, le salaire et la formation. Elle s'est également proposée d'entrecroiser les sources (statistiques nationales, exploitation secondaire de données, enquêtes spécifiques) et les niveaux d'observation. Plus précisément, trois types d'investigations ont été conduites. L'exploitation spécifique de l'enquête Jeunes, réalisée en mars 1992 par l'INSEE en complément de l'enquête emploi et représentative au niveau national, a permis de dégager les grandes tendances de l'emploi des jeunes. L'analyse des statistiques disponibles sur les secteurs d'activité a permis de construire des typologies sectorielles d'usage de la main-d'œuvre juvénile. L'étude des secteurs, conduite à partir d'entretiens auprès des responsables de branches, de l'analyse de documents et d'enquêtes auprès des dirigeants, a permis de mieux cerner le rôle spécifique des entreprises dans la gestion de l'emploi juvénile.

Les principaux résultats s'organisent autour de quatre grandes questions qui sont à la fois enjeux théoriques, objets d'intervention des pouvoirs publics et lieux d'interrogation méthodologique. Comment ont évolué les niveaux de régulation de

l'emploi ? Quelles sont les formes pertinentes de segmentation des marchés du travail ? Quelles sont les contours des catégorisations actuelles de l'emploi ? Comment définir aujourd'hui la qualification et les relations entre formation et emploi ? Chacune à leur manière, ces questions permettent de s'interroger sur les singularités actuelles de l'emploi juvénile et, notamment, sur le rôle respectif de l'âge, de l'ancienneté et du diplôme dans l'accès à l'emploi. En ce sens, elles peuvent fournir des éléments de réflexion pour la conduite des politiques éducatives.

1. LA MULTIPLICITÉ DES NIVEAUX DE DÉTERMINATION DE L'EMPLOI

Les conditions d'accès à l'emploi des jeunes sont le résultat d'une combinaison de logiques globales, sectorielles et d'entreprises qu'il s'est avéré intéressant de confronter (Moncel et Rose, 1995).

Concernant les logiques globales, trois phénomènes jouent un rôle déterminant. Le premier est la prégnance du modèle scolaire en France. Au cours des dernières années, le mouvement de scolarisation s'est encore amplifié avec une croissance très forte des effectifs scolarisés, la part des jeunes de 15 à 29 ans à l'école passant en vingt ans de 30 % à 45 % (et de 15 % à 45 % pour les seuls 20-24 ans). Elle accompagne logiquement une baisse des taux d'activité, la moitié seulement des 20-24 ans étant aujourd'hui actifs contre les trois quart en 1980. A cela s'ajoutent la progression du niveau de sortie, la part des sortants sans diplôme étant actuellement de l'ordre de 15 % contre 30 % en 1977. Ceci fait que, désormais, les jeunes ont globalement un niveau de formation supérieur à celui de l'ensemble de la population active, le développement des filières professionnelles et le rapprochement entre écoles et entreprises, du fait notamment de la mise en place de diverses formules d'alternance.

Le second est le développement des politiques publiques d'emploi et d'insertion des jeunes, marqué par une forte progression des dépenses engagées, des effectifs concernés et de la part des emplois aidés. Ainsi, près d'un million de jeunes entrent annuellement dans les dispositifs publics soit plus de l'équivalent d'une génération et les emplois aidés représentent le cinquième des emplois occupés par les jeunes. Cette politique oscille entre divers objectifs allant de l'adaptation qualitative de la main-d'œuvre à la réduction de ses coûts en passant par le développement d'emplois hors marché. Elle est également très sélective et son impact, notamment sur le chômage, son ampleur et sa sélectivité, reste limité (Gautié, 1994 ; Werquin, 1994).

Le troisième phénomène général concerne justement le chômage. A la fois massif, croissant et sélectif, celui-ci affecte particulièrement les populations juvéniles. Ainsi, plus du quart des jeunes actifs de 20 à 24 ans sont au chômage soit l'équivalent d'un jeune sur dix ; de plus, la part et le taux de chômage des jeunes ont été multipliés par trois en vingt ans et la sélectivité, marquée par un taux deux fois supérieur à celui de la population totale, est très ancienne. Mais le chômage ne constitue pas une réalité homogène car il est fortement différencié selon le sexe, l'âge, le niveau de formation et l'ancienneté sur le marché du travail (Méron et Minni, 1995). Et ce chômage des jeunes s'accompagne d'une meilleure employabilité liée à leur relative "spécialisation" dans les emplois précaires.

Ces tendances révèlent bien l'existence de déterminants globaux, de "logiques sociétales" qui peuvent conduire à parler de modèle d'insertion "à la française" (Verdier, 1995 ; Elbaum et Marchand, 1994). Tout à la fois, elles constituent le cadre dans lequel se définissent les politiques des entreprises et les comportements des jeunes et sont le résultat des pratiques de ces agents (Lefresne, 1995 ; Garonna et Ryan, 1989).

De ce point de vue, le secteur d'activité s'est confirmé comme un lieu pertinent d'analyse, à la fois parce que s'y observent certaines régularités, certaines logiques, et parce que s'y définissent certaines politiques (Audier, 1990 ; Clémenceau et Géhin, 1983). Globalement, l'opposition entre industrie et tertiaire s'est confirmée sur plusieurs points, notamment la probabilité d'accès à l'emploi sous contrat à durée indéterminée pour les jeunes, le degré de stabilité de la main-d'œuvre, l'importance du recours à la formation, indices toujours favorables à l'industrie. A cela s'ajoutent des différences entre types d'emplois, avec une opposition globale entre ouvriers et employés qui ne recouvre pas tout à fait celle entre industrie et tertiaire. Mais ces deux grands ensembles ne sont pas homogènes. Ainsi, la distinction entre services et commerces est nette avec, par exemple, une précarité des jeunes nettement supérieure dans le premier cas ; il en est également ainsi de la distinction entre services marchands et non marchands, lesquels n'ont pas les mêmes logiques d'emploi.

Plus précisément, on a pu observer une polarisation du système productif selon que les secteurs sont ouverts ou fermés aux jeunes. Cette polarisation recouvre une opposition plus générale entre secteurs à modes de gestion internalisée ou par le marché du travail. Cette opposition, issue des théories de la segmentation, distingue les marchés externes, marchés ouverts sur lesquels l'affectation des personnes répondrait à une logique économique marchande, et les marchés internes, plus fermés et organisés au niveau des entreprises ou des branches et qui auraient des logiques plus institutionnelles. La comparaison avec des travaux du même type réalisés au cours des années soixante-dix montre une certaine équivalence des oppositions sectorielles qui peut laisser penser que l'on est en présence d'un phénomène structurel, relativement indépendant de la crise. Enfin, cette polarisation s'expliquerait à la fois par des raisons économiques, liées aux conditions d'activité et de concurrence, et des raisons institutionnelles, telles la nature des relations professionnelles et le poids des conventions collectives.

Au-delà de ces tendances d'ensemble, il existe des différences internes aux secteurs d'activité, liées à une réelle marge d'autonomie des entreprises. Au vu de nos enquêtes, l'importance des modes de gestion mis en œuvre par les entreprises s'est, en effet, révélée primordiale. Elle se manifeste d'abord par une forte cohérence entre les diverses composantes de cette gestion de la main-d'œuvre avec, par exemple, une gestion conjointe des temps et des coûts, des mobilités et des salaires. Elle est attestée également par le lien étroit entre ces modalités d'usage de la main-d'œuvre et les choix techniques, économiques et de gestion retenus par les entreprises. Enfin, elle se révèle par l'écart important entre les positions et pratiques des organisations professionnelles de branche et celles des entreprises, notamment quant à la politique de formation et de recrutement de la main-d'œuvre. Cette dernière observation, particulièrement nette dans les deux secteurs retenus, la grande distribution et le nettoyage industriel, pourrait conduire à s'interroger sur l'efficacité de politiques éducatives mises en œuvre

exclusivement en référence aux positions des organisations de branche et sans examen précis des pratiques des entreprises ou de la capacité des branches à peser sur ces pratiques.

L'emploi des jeunes serait ainsi le résultat d'un jeu complexe s'établissant à trois niveaux qu'il conviendrait d'examiner conjointement. D'abord, le mode de fonctionnement du système d'emploi pris, dans son ensemble, qui ne répond pas forcément à des logiques marchandes mais aussi à des logiques institutionnelles. Ensuite, le mode de régulation de ce système par les branches, notamment à travers leur pratique de mise en place d'un cadre d'ensemble et de conventions collectives. Enfin, les modes de gestion de la main-d'œuvre par les firmes qui ont leur propre logique.

2. LES FORMES ACTUELLES DE SEGMENTATION DE L'EMPLOI

Malgré le chômage, les mobilités restent importantes et les recrutements nombreux. Ce phénomène général concerne également les jeunes, même si leur place relative dans ces mouvements s'est détériorée : ainsi, la proportion de moins de 25 ans dans les recrutements est passée de 40 % à 30 % en dix ans (Fournié, 1994). De plus, l'insertion dans l'emploi est un processus de plus en plus lent et incertain et l'on assiste, depuis les années soixante-dix, à un allongement, à une complexification et à une diversification de la phase de transition professionnelle. Il est donc opportun de s'interroger sur la notion même de marché du travail, sur les mécanismes de segmentation, sur les formes de concurrence et les modes de structuration de ces marchés.

Quels sont nos résultats à cet égard ? Ils confirment d'abord l'existence d'une segmentation renforcée et, peut-être, transformée et déplacée. Mais ils montrent aussi le flou des catégories usuelles d'analyse.

Dans les secteurs étudiés, les types de marchés ne se distinguent pas aisément et ne recouvrent pas exactement les acceptions qu'en donnent les théories de la segmentation. Sur les marchés internes, théoriquement marqués par la stabilité de leur main-d'œuvre, il existe un certain degré de flexibilité rendu possible par des statuts d'emplois particuliers. De leur côté, les marchés externes, en principe ouverts et d'une logique exclusivement marchande, donnent lieu à diverses formes d'organisation, du fait de l'existence d'intermédiaires contribuant à la gestion des mouvements de main-d'œuvre. De même, les marchés secondaires ne sont pas systématiquement marqués par l'instabilité car il existe, derrière des statuts précaires, une certaine permanence de la relation salariale. Enfin, les marchés primaires et secondaires ne sont pas toujours aussi étanches que ne le suppose la théorie. Quant aux critères de segmentation, ils sont également assez flous. Ainsi, la promotion n'est pas seulement indiciaire ; elle se manifeste aussi par des changements de statut (du contrat à durée déterminée - CDD - au contrat à durée indéterminée - CDI -) et de temps de travail (allongement du temps partiel par exemple). De même, la stabilité n'est pas exclusivement statutaire (avec obtention d'un contrat à durée indéterminée) et peut parfois être acquise avec des contrats limités dans le temps mais dont on sait qu'ils seront très probablement reconduits.

A cet égard, chaque secteur a sa propre logique. Dans la grande distribution, coexistent plusieurs formes de marchés : un marché professionnel pour les spécialistes de la vente, au sens où il s'organise autour de la profession et s'accompagne de mobilités entre les entreprises du même secteur ; un marché interne pour l'encadrement, qui s'organise plutôt de façon interne à chaque entreprise ou groupe ; un marché externe pour les caissières et employées de libre service, beaucoup plus ouvert tout en autorisant une certaine stabilité. Par contre, dans le secteur du nettoyage, le marché externe secondaire semble dominer mais cela n'exclue pas certaines formes de stabilité et d'organisation de ce marché.

Enfin, la segmentation doit être considérée plus comme un processus que comme un état. Le système d'emploi n'est pas seulement un ensemble de segments figés dont les configurations seraient permanentes. Il est aussi un ensemble de passages entre segments, de mouvements d'appel et de rejet de la main-d'œuvre auxquels contribuent le développement de la précarité et des aides publiques. En ce sens, il n'y a pas de catégorisations figées de la main-d'œuvre mais plutôt des formes de segmentation flexibles.

Quant aux jeunes, ils occupent souvent, à l'égard des marchés, une position singulière. Rarement recrutés d'emblée sur les marchés internes ou professionnels du fait de l'importance du critère d'ancienneté dans l'accès à ces marchés, ils se retrouvent principalement sur le marché secondaire. Mais ce phénomène de file d'attente est très particulier car il constitue aussi un processus de tri, donc de concurrence interne, qui va conduire, par exemple, les plus diplômés à accéder plus aisément aux marchés primaires (Audier, 1995 ; Béduwé et Espinasse, 1995). En ce sens, il importe d'examiner l'ensemble des trajectoires professionnelles des jeunes si l'on veut apprécier l'effet de leur formation initiale sur l'emploi.

De manière générale, on peut alors se demander si les mouvements d'emploi relèvent encore de logiques marchandes. Certes, il y a marché au sens où le chômage de masse peut expliquer la baisse des salaires et la hausse des niveaux de recrutement, au sens où il y a bien une certaine homogénéisation des conditions d'échange dans certains espaces économiques comme les secteurs d'activité. Mais les processus d'affectation de l'emploi ne sont pas, à proprement parler, de type marchand. Les logiques institutionnelles et organisationnelles semblent l'emporter du fait de l'importance du rôle des pouvoirs publics, des conventions collectives et des politiques des firmes. Ainsi, le salaire de nombre de jeunes n'est pas un prix défini par le marché mais plutôt un tarif fixé dans le cadre de politiques publiques et d'accords nationaux. Il en est également ainsi du volume de travail, lui aussi réglementé dans nombre de cas. En ce sens, on ne peut parler de marché du travail juvénile. Il n'y a pas, en effet, d'échange marchand au plein sens du terme mais plutôt un système d'emploi spécifique avec des logiques institutionnelles et sociétales marquées.

3. PRÉCARITÉ ET JEUNESSE EN QUESTION

La segmentation du marché du travail s'accompagne d'une catégorisation de la main-d'œuvre. Ainsi, on a pu observer une certaine spécificité du travail des femmes : les discriminations subies par les jeunes femmes arrivent progressivement avec l'âge et elles sont sur-représentées dans certains secteurs. Mais cette spécificité est moins

marquée que prévue puisque, par exemple, les risques de précarité semblent également répartis selon les sexes. Sur-représentation des femmes dans le commerce, des étrangers dans le secteur du nettoyage, opposition entre vrais et faux salariés dans le secteur public, tout indique que la répartition des populations n'est pas aléatoire.

Cette catégorisation se joue également selon l'âge. De ce point de vue, on ne peut nier une certaine singularité de la jeunesse. Il y a bien des tendances générales défavorables aux jeunes, des probabilités, des lieux, des contours d'emploi différents. On a vu, par exemple, que la précarité des situations ou les bas salaires étaient plus fréquents pour eux : ainsi, les formes particulières d'emploi concernent près de 20 % des 15-29 ans en emploi, contre moins de 10 % en 1982 et moins de 4 % actuellement pour les 30 à 49 ans. De plus, l'âge est bien apparu comme un discriminant de l'ensemble des variables d'emploi (catégories socioprofessionnelles, secteurs, salaires, conditions de travail) et de parcours (probabilité de stabilisation dans l'emploi).

Mais il ne faut pas surestimer cette singularité. Certaines tendances se retrouvent en effet dans les autres populations telles la progression du temps partiel et des formes précaires. Les logiques sectorielles dépassent le cas des jeunes et concernent l'ensemble de la main-d'œuvre. De plus, les conditions d'accès à l'emploi sont plus ambiguës qu'il n'y paraît. La meilleure employabilité marquée par une durée de chômage relativement plus courte que la moyenne accompagne la plus forte vulnérabilité exprimée par un taux d'entrée en chômage nettement supérieur. Le rejet de certains secteurs est compensé par l'accueil important d'autres. Et surtout, les pratiques sélectives des firmes à l'encontre des jeunes se sont révélées moins fortes qu'on ne le pensait, du moins dans les secteurs étudiés où l'on ne peut dire que l'âge constitue un critère majeur de gestion de la main-d'œuvre.

Au total, la jeunesse ne peut être considérée comme un groupe homogène et totalement singulier. Ainsi, l'opposition entre les débutants et les expérimentés reste pertinente puisque l'ancienneté sur le marché du travail réduit nettement le risque de précarité. Il semblerait donc qu'il existe des seuils (25 ans ? six ans d'ancienneté ?) à partir desquels les jeunes perdent une grande part de leur singularité. Mais l'interprétation de ces constats est difficile à établir du fait de la juxtaposition des effets d'âge, qui masquent l'effet de formation et de génération, qui intègrent le contexte d'accès à l'emploi. De plus, il existe des concurrences entre les jeunes, liées à l'expérience et au diplôme. Les parcours sont également très diversifiés, certains étant marqués par l'emploi stable, d'autres par la précarité, ceci dépendant à la fois des caractéristiques des individus (leur sexe notamment) et de celles des emplois (la nature du dernier emploi occupé). A cet égard, le premier emploi n'est pas toujours prédictif des emplois à venir (Vergnies, 1994).

Ce mouvement général de catégorisation distingue également les emplois avec une opposition essentielle entre les statuts selon qu'ils garantissent ou non la stabilité. Au total, il y a bien un mouvement général de précarisation en forte hausse mais diversifié selon les lieux d'emploi et les personnes concernées (Fourcade, 1992). Ainsi, le secteur d'activité semble avoir une influence supérieure à celle du diplôme et l'ancienneté sur le marché du travail apparaît comme réductrice de précarité. Ce mouvement affecte particulièrement les jeunes mais de façon sélective en fonction de leurs caractéristiques personnelles (âge, formation, ancienneté...) et des emplois

occupés (CSP, secteur). A cela s'ajoutent des conditions d'emploi et de travail souvent défavorables aux jeunes, en particulier en ce qui concerne les salaires et les conditions de travail.

Si ce phénomène est aujourd'hui d'importance, il n'en reste pas moins encore imprécis quant à sa définition. La précarité prend, en effet, des formes très diverses. On peut parler de précarité du contrat, du statut, du temps travaillé, de la situation ou des ressources. On peut distinguer précarité statique et dynamique, ponctuelle et sur longue période, objective et subjective, acceptée ou subie. De même, la précarité peut s'interpréter de diverses manières. On peut distinguer des critères individuels ou d'emplois, des logiques techniques, commerciales ou économiques, des interprétations en termes de coûts ou de mobilité, de gestion de la réserve de main-d'œuvre ou de coût salarial. Et, plus généralement, cela questionne la notion même d'emploi dans la mesure où, aujourd'hui, les formes d'articulation des temps (de contrat et de travail), des statuts et des salaires sont de plus en plus floues ; par exemple un CDI peut être plus instable qu'un CDD, le temps partiel peut accompagner le contrat de longue période.

De telles observations conduisent à s'interroger sur deux points. Avec le développement de la précarité d'un côté et l'effet stabilisateur de l'ancienneté sur le marché du travail de l'autre, peut-on considérer la transition professionnelle comme un mouvement applicable à toutes les populations et limité dans le temps ? N'est-on pas, aujourd'hui, dans une situation où certains connaissent une transition brève tandis que d'autres s'y installent durablement ? D'autre part, les formes spécifiques d'emploi connues par les jeunes, du moins certains d'entre eux, ne préfigurent-elles pas de nouvelles formes de gestion du salariat ? Ainsi, l'ampleur de la précarisation ne manifeste-t-elle pas une forme particulière de gestion des mouvements d'appel-rejet de la main-d'œuvre fortement régulée par les pouvoirs publics et ciblée sur des populations nouvelles dans un contexte de quasi généralisation du salariat ? Ainsi, les catégories ouvriers et employés étant particulièrement touchées, la précarité apparaît comme un critère de partition de la main-d'œuvre fortement lié à la qualification.

4. SUR LES LIENS DISTENDUS ENTRE FORMATION ET EMPLOI

Notre recherche a été conduite sur des secteurs d'activité particuliers puisqu'ils appartiennent au tertiaire. Contrairement aux industries traditionnelles, ces secteurs sont marqués par une construction de la relation formation-emploi moins ferme et plus récente. Ainsi, la référence au diplôme dans les conventions collectives est moins importante pour les emplois de service que pour ceux de l'industrie. De même, les filières de formation professionnelle sont moins anciennes et les politiques de formation continue moins développées. Enfin, les interventions des organisations professionnelles y sont plus récentes. On ne peut donc pas généraliser les observations faites, ce d'autant que l'examen de la formation dans ses liens à l'emploi a révélé quelques surprises. Ainsi, le critère de la formation dans la gestion de la main-d'œuvre, notamment juvénile est apparu moins déterminant qu'on aurait pu le penser *a priori*. Dans le recrutement, le critère de l'âge ne semble pas décisif, ni celui de la formation, du moins dans les secteurs que nous avons étudié de près. De même, la formation semble sous-utilisée dans les emplois occupés par les jeunes et il y a un fort décalage entre les caractéristiques de formation des embauchés et celles des emplois occupés.

Derniers indices, les jeunes bénéficient rarement de la formation continue, par ailleurs plutôt faible, et la promotion semble plutôt liée à l'efficacité du travail qu'à la formation acquise.

De plus, l'effet du diplôme sur les conditions d'emploi des jeunes n'est pas toujours significatif dans les observations globales. Certes, il joue sur la probabilité d'obtenir un emploi mais son influence est fortement nuancée par l'âge et l'ancienneté sur le marché du travail. Certes, il joue un rôle sur le risque de précarité mais celui-ci s'estompe progressivement avec l'ancienneté. Certes, il discrimine plusieurs caractéristiques d'emploi (salaire, temps, statut) mais ceci est plus vrai pour l'industrie que pour le tertiaire. Enfin le critère d'expérience, dont on pourrait penser qu'il constitue une alternative à la formation, n'est pas toujours décisif. Certes, il y a bien un effet d'ancienneté sur le marché du travail réducteur d'instabilité. Certes, l'expérience semble jouer un rôle différenciateur dans les typologies sectorielles (rôle supérieur au diplôme pour les plus âgés des jeunes) mais elle est peu prise en compte comme critère de gestion, du moins dans les secteurs étudiés.

Ceci nous conduit à une forte interrogation sur la nature actuelle de la relation formation-emploi. Il apparaît d'abord que les liens entre formation et emploi sont particulièrement distendus, au moins dans les secteurs étudiés. Du fait du chômage, les déclassements initiaux sont importants et la déconnexion est grande entre CSP et niveau de formation, entre salaire et formation, entre formation et stabilité de l'emploi. Ces déclassements ne sont pas forcément compensés par la suite car les promotions dépendent des modes de gestion de la main-d'œuvre et ne sont réalisées, en fait, que dans les secteurs à gestion interne. Ainsi, la relation formation-emploi doit s'examiner sur les premières années de vie active et non instantanément. Seul, l'examen des trajectoires permet de voir dans quelle mesure, finalement, il y a un certain lien entre formation acquise et formation mise en œuvre dans le travail. De toute façon, l'adéquation formation-emploi se révèle plutôt faible, tant en niveau qu'en spécialité, et semble être plutôt globale que fine, plutôt évolutive que fixée une fois pour toutes. Ceci est très révélateur du grand flou actuel de la définition des qualifications. Pour nombre d'emplois, notamment d'exécution, le contenu technique est moins important que le contenu relationnel, le contenu précis importe moins que les possibilités de polyvalence et d'évolution. De plus, le contexte actuel, notamment du fait de l'ampleur du chômage, pousse à un écart croissant entre les niveaux de formation exigés à l'embauche et ceux mis en œuvre dans le travail. Enfin, il faut insister sur le fait que la relation formation-emploi n'est pas un état instantané et acquis. Elle prend du temps, elle se construit, notamment sous l'effet des logiques de mobilités sectorielles et professionnelles. Les modalités d'insertion professionnelle, donc de mise en rapport formation-emploi, sont différenciées selon le mode de fonctionnement des systèmes d'emploi.

CONCLUSION

Si l'on examine les résultats de cette recherche sous l'angle du thème retenu cette année pour la rencontre du Réseau sur l'insertion sociale et professionnelle des jeunes - les liens entre analyses théoriques et empiriques - il est possible de mettre en avant quelques conclusions.

Les premières sont d'ordre conceptuel. L'examen attentif des pratiques des entreprises et des secteurs et leur confrontation avec les théories en vigueur, notamment celles de la segmentation, nous incitent à interroger des notions que l'on utilise en permanence mais dont la définition et la mesure sont plus floues qu'il n'y paraît à première vue. Ainsi, comme on l'a énoncé plus haut, il semble indispensable de construire une définition plus précise de la précarité et d'imaginer des indicateurs susceptibles d'en caractériser les diverses dimensions. De même, les distinctions traditionnelles entre types de marchés (interne, externe, professionnel, primaire, secondaire), si elles gardent leur pertinence, doivent être affinées pour tenir compte des tendances les plus récentes et des observations empiriques. Enfin, des notions comme celle d'adéquation, de déclassement-reclassement, ne semblent pas facilement adaptées à une restitution de la complexité actuelle des relations entre formation et emploi ; là encore, elles mériteraient d'être précisées pour autoriser une mesure qui ne limite pas la question de l'accès à l'emploi à un simple processus d'ajustement individuel.

Les secondes observations sont plus méthodologiques. Elles ont trait aux conditions d'observation et d'analyse des processus de transition professionnelle. S'est d'abord confirmée la nécessité d'analyser les phénomènes sur longue période. Ceci est vrai lorsqu'on analyse l'accès à l'emploi au niveau des individus car leurs trajectoires ont plus de sens que leurs situations instantanées et l'ajustement des qualifications se réalise progressivement et ne constitue pas une situation instantanée et acquise définitivement. Mais c'est également vrai lorsqu'on interprète l'insertion d'un point de vue plus global. A cet égard, la comparaison précise des conditions actuelles d'insertion avec celles des dernières décennies est indispensable si l'on veut circonscrire les effets de la crise.

S'est également confirmé l'intérêt d'une approche combinant les niveaux d'observation. C'est en effet à la conjonction des logiques sociétales, des cohérences sectorielles, des comportements des entreprises et des pratiques des individus que pourrait se situer une interprétation d'ensemble des conditions d'accès à l'emploi des jeunes. Pour y parvenir, il conviendrait de poursuivre le travail de réflexion méthodologique amorcé ici et visant à combiner plusieurs sources (statistiques globales, données sectorielles, monographies d'entreprises, enquêtes auprès des jeunes). Ainsi, le croisement de l'étude des politiques d'entreprises à partir d'enquêtes auprès des responsables, et de celle des parcours des jeunes, à l'aide de questionnaires individuels, devrait permettre de préciser la part d'autonomie respective de chacun, de voir comment les employeurs utilisent, sans forcément les connaître d'emblée, les qualités acquises par les jeunes et de mesurer les écarts entre les situations concrètes et les opinions exprimées.

Est également attesté l'intérêt du secteur tertiaire qui offre des spécificités beaucoup moins connues que celles de l'industrie. A cet égard, on peut penser que des études complémentaires sur d'autres secteurs tertiaires seraient très utiles, notamment dans le secteur public qui constitue un lieu d'accès essentiel pour les jeunes et dans lequel la précarité et la relation formation-emploi prennent des formes très singulières.

Enfin, on pourrait s'interroger sur la possibilité de tirer parti de ces résultats dans une perspective d'intervention sur l'emploi et la formation. De fait, les résultats avancés ont à voir avec les questions que se posent les pouvoirs publics lorsqu'il s'agit

d'orienter la politique de formation, de faire de la prospective ou de négocier avec les branches professionnelles. Mais il convient d'être prudent à cet égard compte tenu du caractère limité des investigations. On se contentera donc de remarques très générales concernant plus la démarche à suivre que les résultats. La première est liée à la nécessité d'analyser les phénomènes sur longue période. L'ajustement des qualifications et des parcours se réalise en effet progressivement et l'appréciation des réformes éducatives ne peut donc se faire sur la base d'observations instantanées et proches de la sortie du système éducatif. La seconde concerne les rapports avec les organisations professionnelles qui devraient se fonder sur des contrats s'appuyant sur une bonne connaissance de la réalité du secteur et notamment des écarts probables entre orientations générales de la branche et pratiques des entreprises. La dernière relève de la démarche prospective, dont on connaît les limites, et qui devrait prendre en considération toutes les marges de manœuvre des acteurs.

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TRAJECTOIRES D'INSERTION ET MODÉLISATION DES PARCOURS : QUELQUES REMARQUES

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Résumé

La première partie de ce travail met en perspective les travaux théoriques et empiriques qui ont servi de référence à l'explication de l'insertion des jeunes. Sociologues et économistes ont élaboré une série de concepts qui montrent la richesse et les limites des enquêtes longitudinales. Devenue opératoire par ses extensions, la théorie de la quête (seconde partie) a permis des modélisations de plus en perfectionnées et des avancées significatives dans le domaine de la compréhension du processus d'insertion sans toutefois "lever le voile" sur certains problèmes. La troisième partie de ce travail essaie de proposer quelques pistes de recherche dans le but d'améliorer l'efficacité des enquêtes longitudinales et plus généralement la compréhension des problèmes d'insertion.

Abstract

School to Work Transition: Some Remarks about the Different Approachs to Modelling Young Adults Paths

This article surveys the vast literature on the school to work transition and the methods used to explain this transition as a process. The first section considers theoretical analysis in the study of transitions in youth. It examines the different concepts used by economists, sociologists and psychologists in the longitudinal analysis. The second section compares theoretical and empirical studies about transitions in youth in relation with job search theory. The third section ends with a discussion of some propositions in order to improve the quality of longitudinal data.

INTRODUCTION

Les difficultés de passage du système éducatif au système productif, accrues ces dernières années par l'ampleur de la crise économique, ont conduit les chercheurs à s'interroger sur la complexité d'un processus d'insertion, rarement étudié durant les Trente Glorieuses. A l'instar des autres disciplines, l'économie ne propose pas une théorie générale, unifiée et exhaustive de l'insertion professionnelle. Dans la théorie néoclassique, les problèmes d'insertion apparaissent dès que le marché n'est plus concurrentiel (hétérogénéité, information imparfaite, absence de mobilité).

D'un point de vue empirique, les enquêtes longitudinales ont souvent servi de base à l'analyse du marché du travail des jeunes[1]. Le suivi de cohortes de jeunes a permis des analyses de plus en plus techniques, de la simple analyse statistique aux techniques économétriques les plus poussées. C'est par exemple le cas de l'exploitation des enquêtes de cheminement en France, lancées par le Céreq à la fin des années soixante-dix[2] : les travaux sont passés de simples comparaisons statistiques plus ou moins dynamiques des taux de placement pour différentes filières de formations à des travaux de plus en plus ambitieux sur la compréhension du marché du travail des jeunes.

L'objectif de ce travail est de mener une réflexion sur le traitement des enquêtes longitudinales d'accès à l'emploi par les économistes. Cette étude part d'un constat empirique : la difficulté d'appréhender la diversité des trajectoires au sein d'une cohorte. Ce problème nous a incité, dans une première partie, à mener une réflexion sur le traitement des enquêtes longitudinales pour la compréhension des problèmes d'insertion. Quels sont les fondements théoriques de leur approche, quels outils ont-ils développé pour traiter ces enquêtes longitudinales, et plus généralement, l'exploitation des enquêtes longitudinales permet-elle d'appréhender la complexité du processus d'insertion professionnelle des sortants du système éducatif ?

La seconde partie de ce travail s'intéresse plus spécialement à l'approche néoclassique du processus d'insertion. Elle met en perspective les modèles théoriques de la quête d'emploi *(Job Search)* et les résultats empiriques obtenus à partir des applications économétriques de ces modèles. La troisième partie essaiera de proposer quelques pistes de recherche dans le but d'améliorer l'efficacité des enquêtes longitudinales et plus généralement la compréhension des problèmes d'insertion.

1. L'EXPLOITATION DES ENQUÊTES LONGITUDINALES DANS LE CADRE DE L'INSERTION : FONDEMENTS THÉORIQUES ET PROBLÈMES MÉTHODOLOGIQUES

L'insertion des jeunes est généralement étudiée à partir de cohortes, qui retracent la trajectoire d'un ensemble d'individus qui ont vécu le même événement initial

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[1] Voir Kalachek (1980) pour une présentation des premières enquêtes longitudinales sur le marché du travail.

[2] Les premières enquêtes longitudinales en France, beaucoup plus sommaires, ont cependant commencé au milieu des années 60, lors d'études engagées par l'Institut national d'études démographiques et le Service central des statistiques de la conjoncture du ministère de l'Éducation nationale (*cf.* Tanguy (1986), pour un historique plus détaillé).

(l'obtention d'un diplôme commun ou la sortie du système éducatif) au même moment au cours d'une période relativement courte. Les deux dates de début et de fin de période ne sont évidemment pas neutres pour appréhender le phénomène. Le début de la période d'insertion est alors imposé *a priori* par un événement avant lequel on ne sait que peu de choses sur l'individu. La fin de l'insertion est atteinte au moment où les caractéristiques des individus (le taux de chômage en particulier) ont convergé vers les caractéristiques moyennes de la population active. Il est évidemment difficile dans le cas général de connaître la durée nécessaire à cette convergence, d'où la présence parfois d'une censure à droite.

Traiter les données recueillies au long de cette période, construire des trajectoires d'insertion, ordonner les événements, les durées passées, rendre compte de l'enchevêtrement de ces différents états (les études, le chômage, les stages...) semble très ambitieux si l'on ne se dote pas d'un minimum de concepts pour structurer la recherche.

1.1. L'insertion : un concept protéiforme

L'étude des différentes définitions de l'insertion professionnelle fait apparaître un consensus sur la nécessité de considérer l'insertion comme un processus dynamique et évolutif au cours du temps, mais également de nombreuses divergences face aux différentes facettes de ce concept. De manière générale, les économistes s'accordent sur la finalité de l'insertion, concernant la position du jeune sur le marché de l'emploi. Ainsi pour Vernières (1993), l'insertion professionnelle des jeunes, souvent décrite comme un phénomène complexe, peut se définir comme un processus par lequel un individu ou un groupe d'individus, qui n'a jamais appartenu à la population active, atteint une position stabilisée dans le système d'emploi. Cette position peut tout aussi bien déboucher sur une période d'inactivité, de chômage, ou de changements fréquents d'emplois. Il faut cependant remarquer que l'insertion est un "enchevêtrement" de situations de recherche d'emploi, de chômage, de formation ou d'inactivité. Pour Vincens (1981), le début de la période d'insertion est caractérisé par un changement dans l'utilisation du temps : le temps consacré à la recherche d'emploi devient prépondérant dans l'activité de l'individu. Le comportement de recherche de l'individu est rationnel en fonction de l'objectif qu'il s'est fixé au début de sa recherche[3]. L'ensemble des choix et des stratégies qui constituent l'insertion de l'individu est inhérent aux caractéristiques de l'individu et aux contraintes imposées par son environnement.

Des travaux d'inspiration plus sociologique ou psychologique fournissent également un certain nombre de concepts pour définir le processus d'insertion en insistant cependant sur une caractéristique de l'agent qui s'insère : son âge[4]. L'insertion est considérée comme un moment de passage entre un statut acquis et un statut donné, une période précaire de tension vers l'avenir, l'attente entre une phase d'apprentissage des rôles et des fonctions et un moment de prise en charge concrète des responsabilités. Ainsi, l'ensemble des facteurs inhérents au cycle de vie de l'individu devient indispensable pour comprendre les différentes facettes de cette transition

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[3] Ce projet peut se modifier au long de la trajectoire d'insertion.
[4] Voir par exemple Galland (1984).

(Featherman, 1980). La notion même d'insertion a été fortement critiquée, souvent remplacée par la notion de transition[5] susceptible de mieux prendre en compte la complexité et la durée des parcours. Ce changement de notion traduit également pour Curie (1993, p.298) la nécessité de considérer l'insertion comme une phase normale de socialisation au cours du cycle de vie de l'individu, et le refus d'établir un modèle d'insertion faisant apparaître l'absence d'emploi comme une pathologie du système social et/ou de l'individu.

Baby et Laflamme (1993) s'opposent à la conception économique de l'insertion, vue comme un processus linéaire entre le système éducatif et le marché au travail. Ils proposent d'appréhender l'insertion comme un phénomène multidimensionnel dépendant d'un effet structurel (la division du travail, la transformation des technologies...), d'un effet conjoncturel (le nombre d'emplois disponibles à un moment donné...) et de l'interaction entre ces deux champs. Le processus d'insertion est décomposé en trois "instances" interdépendantes : la préparation (*vocational training*), la transition et l'intégration professionnelle. Certains *patterns* et certaines stratégies d'insertion[6] inhérents à la conjoncture actuelle peuvent influencer les mécanismes d'adaptation à une capacité sociétale d'insertion des jeunes.

Ces auteurs restent cependant assez discrets sur l'influence des relations entre l'individu et les structures du marché du travail. La notion d'identité sociale et professionnelle proposée par Dubar (1991), permet d'éclairer ce point. L'identité résulte de deux processus : l'identité intériorisée par l'individu à partir des catégories offertes par les institutions et l'identité attribuée par les institutions et les agents directement en contact avec les individus. Dès lors, la période d'insertion apparaît comme l'étape déterminante dans la construction de l'identité professionnelle et sociale, résultant d'un premier affrontement entre les deux processus précédents. La transition de l'école au travail est donc considérée comme une étape importante du processus global de socialisation des jeunes à la vie adulte. Les psychologues caractérisent cette phase par des changements remarquables, sur le plan personnel et au niveau des relations de l'individu avec le milieu et les nouvelles tâches auxquelles il est confronté, par exemple : développer de nouvelles connaissances, modifier certaines représentations sociales et attitudes à l'égard du travail, construire une attitude sociale et personnelle positive, définir un nouvel équilibre entre les buts liés à la vie de travail et les buts extra-professionnels (Depolo et *alii*, 1992). La spécificité des ressources, des contraintes dans les différents domaines de la vie de l'individu (les sous-systèmes) s'ajustent en "interdépendance relative" (Curie, 1993) et un changement de la sphère du travail a des conséquences dans l'ensemble des autres sous-systèmes. Les projets des jeunes et l'évolution de ces projets au cours de leur

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[5] Le concept de transition et ses différentes acceptions ont également fait l'objet de nombreuses discussions dans la littérature : la transition de l'école au travail, la transition de l'école à la vie active, la transition de l'adolescence à la vie adulte, la transition professionnelle (voir par exemple Planas et *alii*, 1995).

[6] Baby et Laflamme (1993, p.108) proposent les définitions suivantes :
- insertion strategy : " the coordinated set of actions and means employed in order to ensure the translation school to work"
- insertion pattern : " the global configuration of the entities characterizing the nature and direction of the path that mark the transition from first school-leaving to lasting access to the labor force".

entrée dans la vie active sont alors déterminants pour appréhender l'insertion[7] dans la mesure où ils intègrent leur conception du marché du travail avant et après leur sortie du système éducatif, à travers notamment les caractéristiques de leur situation et les conséquences psychologiques qui y sont associées.

Trottier (1995), à la croisée des approches précédentes, s'oppose également à la réduction de l'insertion professionnelle à un processus de stabilisation sur le marché du travail. Il propose une analyse en trois étapes :
- l'étude des connaissances, des habilités et les orientations culturelles propres à l'organisation dans laquelle les individus s'insèrent,
- les interactions entre les acteurs impliqués,
- les modèles culturels qui façonnent les rôles occupationnels, la marge de manœuvre et de négociation des acteurs dans la construction de leur identité sociale et professionnelle, les rites de passage d'une étape du processus à l'autre.

Plusieurs sociologues et économistes ont également critiqué la vision concurrentielle de l'insertion proposée par la théorie économique néoclassique. Ainsi, Rose (1984) préfère considérer cette phase comme un espace de transition professionnelle correspondant à l'ensemble des mécanismes plus ou moins institutionnalisés qui contribuent à modifier les formes de cette transition[8]. Ces mécanismes résultent d'interactions entre l'État ou les agents publics de transition, les jeunes en situation de transition sur un marché du travail externe et les entreprises qui les recrutent.

Ces différentes conceptions de l'insertion, souvent complémentaires, dans la compréhension du phénomène, peuvent parfois poser des problèmes au niveau empirique. Peut-on par des données longitudinales individuelles intégrer statistiquement un ensemble de mécanismes et de facteurs difficilement observables ?

1.2. Enjeux et limites des analyses longitudinales pour traiter de l'insertion des jeunes

Les enquêtes d'insertion ou de cheminement, proposées en France par le Céreq, sont des outils longitudinaux dans la mesure où l'on étudie un processus de recherche ou d'accès à l'emploi sur une certaine période. Les enquêtes longitudinales répondent à des interrogations dans des domaines de recherche très variés[9] comme l'illustre la définition proposée lors d'un séminaire de travail interdisciplinaire (Courgeau et Lelièvre, 1989) : "Les approches longitudinales ont pour caractéristique l'étude d'événements ou d'états, objectifs ou subjectifs, dans leur succession, en rapport avec un temps historiquement défini, survenus à une même entité (individu, famille organisation...) au sein d'un groupe bien défini (génération, promotion...). Les approches longitudinales veulent répondre à un objectif précis, par divers modes de recueil des données et par des méthodes d'analyse et des modèles particuliers". Vincens (1994) les définit plus brièvement comme un mode de prise en compte du

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[7] Voir par exemple Depolo et *alii* (1993), Heaven (1995)...
[8] Les formes de transition représentent alors toutes les formes intermédiaires entre les individus et les entreprises qui modifient directement ou non les passage à l'emploi.
[9] Voir Vincens (1994) pour une réflexion plus approfondie sur ce thème.

temps qui consiste à utiliser des données individuelles capables de donner des informations à différentes dates pour chaque entité.

Comme cela a été dit précédemment, le choix des dates de début et de fin de l'enquête n'est pas neutre dans l'étude de l'insertion. La simple comparaison des résultats obtenus par les enquêtes d'insertion et les enquêtes de cheminement du Céreq, met en évidence de nombreuses différences. De même, le point de départ commun à toute la cohorte ne correspond pas obligatoirement à la sortie du système éducatif. La réussite à un examen, ou seulement l'inscription à un examen une année donnée, peut être le fait fédérateur de la cohorte. Ainsi, pour les niveaux IV, le Céreq a choisi de retenir une cohorte d'inscrits au baccalauréat une année donnée et de les interroger quatre ans plus tard. Comme le remarque Pottier (1995), la construction de l'enquête est fortement influencée par le schéma théorique d'analyse. Alors que le choix d'analyser des sortants du système éducatif permet une analyse de concurrence dans l'accès aux emplois de différentes catégories de main-d'œuvre, l'analyse des poursuites d'études correspond davantage au schéma théorique du capital humain et au gain individuel que chacun peut avoir à continuer sa scolarité. Dans l'ensemble des études longitudinales sur l'insertion, la sortie du système éducatif reste cependant le point de départ le plus souvent retenu.

Un autre problème auquel se sont heurtés les chercheurs a été de savoir quels types de facteurs peuvent être étudiés à partir d'enquêtes longitudinales sur des données individuelles. Pour le sociologue, comme le remarque Passeron (1989, p.17), ce type d'enquête ne peut se référer qu'à deux cadres théoriques qui permettent d'inscrire une recherche empirique sur les structures longitudinales de l'individuation : "le premier (durkheimien) subordonne l'intelligibilité biographique à la description des structures objectives (culturelles ou statistiques) qui la précèdent et qui la déterminent ; dans le second (sartrien), on essaye de comprendre le devenir biographique comme le produit d'un double mouvement, celui de l'action sociale des individus et celui du déterminisme social des structures". Plus simplement, quelle peut être la marge de liberté individuelle dans une trajectoire d'insertion ? Pour l'observation longitudinale de l'entrée dans la vie active, De Virville (1981) souligne, en se basant sur les premiers travaux du Céreq, que les décisions stratégiques des individus et les facteurs structurels susceptibles de les influencer sont fortement interconnectés[10]. Les trajectoires observées résultent alors de trois principaux effets :
- une certaine représentation collective du système d'emploi, reflet de son comportement passé (par exemple le type d'emploi que l'individu peut rechercher avec telle formation ou des profils souhaités par l'employeur pour accéder à certains emplois),
- l'évolution des rapports existant entre les volumes et catégories d'offres et de demandes d'emploi,
- des stratégies socioprofessionnelles des personnes dans le cadre socio-économique tracé par les deux composantes précédentes. Ces stratégies résultent de différentes valorisations des situations professionnelles (salaires, conditions de travail, intérêt de

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[10] La réflexion de Blossfeld (1992) sur la compréhension des destinées professionnelles de groupes à différentes époques n'est pas très éloignée. Les facteurs influençant ces trajectoires résident dans la confrontation de trois effets : un effet de cohorte déterminé par une contexte structurel, un effet de période lié aux cycles de l'activité économique, un effet de positionnement sur le cycle de vie qui dépend de l'activité et des décisions passées de l'individu.

l'emploi...) et sont plus ou moins fortement corrélées avec des caractéristiques individuelles[11].

Plus récemment, Nicole-Drancourt (1994) associe à l'exploitation de données longitudinales d'insertion deux types d'explications :
- une approche structurelle où l'on peut prévoir les trajectoires d'insertion en fonction de facteurs qui caractérisent la situation. Le profil d'insertion peut alors apparaître comme le profil de facteurs contextuels (individuel : âge, sexe... ; socio-démographiques, économiques) ou de facteurs environnementaux (chômage local...). Nicole-Drancourt remarque par ailleurs que ces facteurs peuvent être endogènes ou exogènes par rapport à l'histoire passée de l'individu.
- une approche individuelle, stratégique, qui insiste sur le comportement individuel et rejoint les travaux des psychologues. L'individu, plus ou moins consciemment participe à la définition de sa trajectoire, notamment par sa motivation (Heaven, 1995), son projet professionnel (Depolo et *alii*, 1993 ; Heaven, 1995 ; Béret, 1994 et 1995).

Les psychologues, sociologues (et certains socio-économistes), décrivent le phénomène en termes d'interactions et mettent en évidence la nécessité d'intégrer les stratégies individuelles des jeunes dans l'analyse de l'insertion. Parfois, connaître la conception du jeune du marché du travail devient aussi important que ses choix effectivement réalisés pour comprendre son insertion. Les forces interagissantes et les informations sur les différentes stratégies sont souvent difficilement quantifiables et, en tout état de cause, rarement collectées dans les questionnaires usuels des enquêtes de cheminement.

Les économistes disposent de deux grandes classes d'outils pour traiter de tels problèmes d'interaction. L'analyse traditionnelle de marché semble inaccessible du fait de l'absence de la demande. La maximisation sous contrainte renvoie à la notion d'équilibre partiel qui est de toute évidence plus adaptée à un système d'information dans lequel seul l'offreur est enquêté.

2. LE PROCESSUS D'INSERTION VU PAR L'ÉCONOMISTE : UNE RÉFÉRENCE IMPLICITE OU EXPLICITE A LA THÉORIE DE LA QUÊTE

L'étude de l'insertion commence généralement à la sortie du système éducatif au moment où le jeune sortant consacre une part importante de son temps à la recherche d'emploi (Vincens, 1981). Cependant, comme il a été souligné dans la section précédente, le choix de ce point de départ apparaît contestable dans la mesure où il ne prend pas en compte le passé scolaire ou extra-scolaire des individus. Le jeune peut avoir par exemple repris ses études, après un passage dans le système d'emploi, ou encore avoir exercé des "petits boulots" pour financer ses études... Difficile dans ces cas de considérer la sortie du système éducatif comme le début de la période

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[11] Le travail de Rouault-Galdo (1992) sur les chômeurs de longue durée montre que les déterminants contextuels et les effets individuels influencent de façon significative les trajectoires d'insertion, même si les seconds paraissent plus modestes. Dans le même sens, l'étude de Pottier (1992) montre que la notion de "logique de mobilité", pour appréhender les trajectoires d'insertion professionnelle des jeunes, peut être interprétée comme l'articulation entre ces deux effets, structurel et individuel.

d'insertion. Vincens (1981) souligne que l'idée d'insertion doit être associée à "l'idée de projet de vie", la formation initiale est un indicateur de ce que peut être un projet de vie, mais plus largement l'ensemble des activités de l'individu durant son passage dans le système éducatif peut donner des indications sur son projet de vie. Pour la théorie du capital humain, l'investissement initial a pour but de préparer l'accès à des emplois qui le rentabiliseront (Becker, 1964). Durant le parcours d'insertion, l'individu peut également faire des choix en matière de formation, à savoir la poursuite ou non d'études complémentaires ou de stages qui pourront accroître la formation générale ou spécifique. Les individus choisissent rationnellement leur demande d'éducation en fonction des perspectives de débouchés et de revenus futurs sur le marché local du travail ou éventuellement, migrent vers des marchés du travail plus porteurs. Le capital humain initial et plus largement le capital social apparaissent comme les principaux facteurs explicatifs du comportement de l'individu. Au cours de son parcours d'insertion, le comportement du chercheur d'emploi peut être influencé par les critères de recrutement du système productif local ou les différentes formations proposées aux individus, ainsi que le coût et la facilité d'accès à ces formations. Les problèmes d'informations deviennent alors primordiaux dans l'explication du chômage des jeunes et de l'accès à l'emploi.

Déjà, en 1932, Hicks soulignait qu'une connaissance imparfaite du marché du travail pouvait conduire le chercheur d'emploi à investir du temps dans la recherche d'informations sur les opportunités d'emploi. La théorie de la quête est privilégiée par la majorité des économistes[12] pour analyser cette phase de recherche dans la mesure où elle présente une analyse dynamique de l'insertion, comme un processus rationnel de recherche et d'accès à l'emploi.

Appliquée au processus d'insertion, la théorie de la quête permet d'expliquer les mécanismes et les variables affectant la recherche de l'individu dans un processus dynamique[13]. Le modèle de base de la théorie de la quête est intéressant dans la mesure où il présente une théorie générale de la recherche d'emploi, mais ses extensions et la discussion de ses hypothèses se sont révélées par la suite très riches en termes de travaux sur l'insertion des jeunes, au niveau théorique comme au niveau empirique.

2.1. Le modèle de base de la théorie de la quête

Le modèle de quête traite d'une opération sur le marché du travail caractérisée par de l'information imparfaite sur les opportunités d'emploi. L'absence de transparence sur le marché du travail conduit à considérer le temps et le coût d'information comme nécessaire pour accéder à l'emploi. L'échange sur le marché du travail est une information coûteuse, et la décision d'attendre avant d'accepter un échange est prise

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[12] Dans le domaine de l'accès à l'emploi, elle est parfois associée aux théories du capital humain, du *job matching,* des négociations salariales ou des syndicats.

[13] Pour Vincens (1981, p.53), "La théorie de la quête apporte des éléments intéressants à l'analyse de l'insertion des jeunes et principalement l'idée d'un processus d'apprentissage au cours duquel l'emploi ou le salaire de réserve va évoluer, processus qui se termine lorsque l'individu est parvenu à un équilibre, mais la théorie apporte indirectement plus encore : en discutant ses hypothèses, on peut mieux préciser les situations qui correspondent à l'insertion des jeunes."

selon un principe d'optimisation. Ainsi les chômeurs optimisent les conditions de retour à l'emploi par un arbitrage entre la durée de la recherche et le salaire demandé.

L'article fondateur de Stigler (1962) montre que l'individu a intérêt à restreindre son champ de prospection en raisons des coûts (coûts pour se déplacer à un entretien d'embauche, coûts psychologiques dus à la précarité de la situation...). Le chercheur d'emploi connaît la distribution des salaires proposés par les entreprises et décide d'un nombre optimal de recherches. Lorsque l'espérance de gain (salaire) égalise le coût d'une visite additionnelle, l'individu arrête ses recherches et accepte l'offre d'emploi.

Mac Call (1970) inverse le principe de la démarche du demandeur d'emploi et propose que l'individu fixe d'abord un salaire de réserve. Dans ce cas, l'acceptation ou le rejet de l'offre est déterminé par ce salaire de réserve, choisi par l'individu au début de la période de façon à maximiser ses gains futurs. Si le salaire observé est supérieur au salaire de réserve, l'offre est acceptée, sinon, elle est refusée et l'individu continue ses recherches. La stratégie de recherche d'emploi, basée sur la théorie de la règle d'arrêt optimale est qualifiée de séquentielle dans le sens où les ajustements successifs du salaire de réserve doivent permettre à l'individu de réviser le niveau de ses recherches. (Mac Call, 1965 et 1970 ; Mortensen, 1970).

Quand une firme propose un emploi, un individu l'accepte si le niveau de salaire est supérieur au salaire de réserve. La probabilité que l'individu quitte le chômage durant la période est alors obtenue comme le produit de trois probabilités : la probabilité que l'individu trouve une firme qui propose un emploi, la probabilité que la firme le sélectionne pour cet emploi et la probabilité d'acceptation de l'offre par l'individu. Ainsi, pour une probabilité d'offre donnée, une hausse du salaire de réserve réduit la probabilité de quitter le chômage. Le salaire de réserve optimal est alors la valeur qui égalise le gain marginal dû à une petite augmentation et le coût marginal d'une recherche supplémentaire.

Cependant, on peut remarquer que dans cette analyse le salaire de réserve est le facteur qui détermine les choix et les comportements des individus, l'objet de l'analyse se déplace alors de l'offre d'emploi à l'offre de salaire. Ainsi, l'explication du chômage n'est que très partielle, puisqu'elle ne concerne que les individus qui choisissent d'être au chômage en affichant un salaire de réserve trop élevé. Elle permet toutefois de présenter la recherche d'emploi comme un processus dynamique, l'activité de recherche possède une certaine productivité et l'élément déterminant est le salaire.

L'estimation de modèles de quête ne peut pas être directe. Examinons quelles solutions ont été utilisées pour surmonter cette difficulté.

2.2. Les extensions du modèle de base et leur intérêt dans le cadre de l'insertion des jeunes

D'un point de vue empirique, l'association du modèle de base aux enquêtes longitudinales sur le marché du travail pose quelques problèmes quant au réalisme de certaines hypothèses, et les différents travaux qui ont suivi ont permis d'apporter plus de "pertinence" au modèle de base. En fait, le modèle de base repose principalement sur trois paramètres : le salaire de réserve, la demande généralement représentée par

un flux d'offre d'emploi par unité de temps et la distribution des salaires associée à ces offres d'emploi. L'observation des questionnaires usuels ne permet cependant pas de déterminer des "proxis" évidentes de ces paramètres. Nous nous proposons donc de reprendre les extensions de ce modèle dans trois grandes directions : le salaire de réserve, le coût et l'intensité de la recherche, l'homogénéité de la demande. Une quatrième direction, plus transversale, est inscrite en filigrane dans ces différents axes : comment mesurer l'hétérogénéité de l'offre de travail ? C'est pourquoi, nous essayerons au cours de ce paragraphe de mettre en perspective les extensions théoriques du modèle de base et les résultats empiriques testés, pour la majorité des travaux, à partir d'enquêtes longitudinales sur l'accès à l'emploi des jeunes.

2.2.1. La pertinence du salaire de réserve comme facteur explicatif d'accès à l'emploi

A la suite de Stigler (1962) et de Mac Call (1965 et 1970), de nombreux auteurs ont étudié les différents facteurs susceptibles de faire varier le salaire de réserve[14]. Les modèles évoqués au cours du paragraphe précédent sont stationnaires : la probabilité de recevoir une offre, la distribution des offres de salaire, les coûts de recherche sont supposés constants au cours du temps. Cependant, lorsque la durée de chômage augmente, les individus sont incités à réviser à la baisse leur politique de salaire de réserve (Lippman et Mac Call, 1976b ; Mortensen, 1986). Cette explication a ouvert la voie à de nombreuses critiques dans la mesure où la durée du chômage s'explique le plus souvent par le refus d'un employé d'accepter un emploi "peu attractif". Gazier (1991) préfère parler de "chômage de recherche" et considère ce type de chômage comme un investissement, qui se transforme dans une activité rationnelle, productive. Cette justification semble toutefois limitée pour expliquer la diversité des trajectoires d'insertion des jeunes observées précédemment. Comme le remarquent Devine et Kiefer (1993), les études empiriques s'intéressant au rejet des offres[15], fort peu nombreuses au demeurant, ont montré que ces refus étaient très rares. Le problème principal se résume alors le plus souvent à la probabilité de trouver une offre, la probabilité de l'accepter étant proche de 1. La majorité des travaux empiriques sur ce sujet s'intéresse plutôt à la mesure des facteurs influençant la probabilité de recevoir une offre ou d'être sélectionné pour un emploi (par exemple Jensen et Westergard-Nielsen, 1987). L'estimation du modèle de base de la quête proposée par Lancaster et Chesher (1983), avec des données sur le salaire de réserve et sur les salaires espérés,

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[14] Les facteurs les plus importants affectant la baisse du salaire de réserve sont :
- un allongement de la durée du chômage
- un horizon de temps fini (Gronau, 1971), l'intégration de la préférence pour le présent.
- une progression des emplois les plus intéressants aux emplois les moins intéressants (Salop, 1973b)
- une baisse dans l'utilité marginale du loisir (Salop, 1973b),
- une hausse des coûts psychiques et d'anxiété (Holt, 1970),
- l'épuisement des ressources et de l'épargne,
- une plus grande propension au risque (Harnett et alii, 1971).
Un salaire de réserve plus élevé sera dû à :
- des revenus non marchands plus importants (Gronau, 1971),
- une plus grande probabilité de se souvenir d'un emploi précédent (Gordon, 1973),
- une proposition de salaire acceptable plus élevée (Mortensen, 1970),
- une plus grande probabilité de trouver une offre d'emploi acceptable (Gronau, 1971; Gordon, 1973).
[15] Les données relatives au refus d'opportunité d'emploi sont extrêmement rares dans les enquêtes longitudinales d'insertion ou de cheminement.

permet de déduire non paramétriquement des élasticités par rapport à différents paramètres. Cependant, dans la majorité des cas, le salaire de réserve est rarement observé dans les enquêtes longitudinales ; seul le salaire effectif dans l'emploi est signalé. Sur ce point, la revue de la littérature empirique proposée par Devine et Kiefer (1993) montre cependant, que l'évolution des techniques économétriques, sous des hypothèses parfois restrictives a permis de s'affranchir de ce problème. Ainsi dans les années 70, les travaux de Burgess et Kingston (1971 et 1975) ont montré qu'une analyse en termes de *Job Search* n'impliquait pas obligatoirement des observations sur le salaire de réserve. Les travaux de Lancaster (1979) et Nickell (1979) furent précurseurs dans l'analyse des durées sur le marché du travail en utilisant la modélisation de fonction de risque. Dans un même temps, les travaux de Kiefer et Neuman (1979) ont souligné l'intérêt de travailler sur des modèles non linéaires et ont ainsi mesuré l'effet de différentes variables sur le salaire de réserve sans disposer d'informations sur ce dernier. Une dernière classe de travaux, beaucoup plus techniques, ont alors pris le relais : les modèles à multi-états[16] et les modèles d'équilibres.

Par ailleurs, le cadre analytique du modèle de quête offre la possibilité d'intégrer d'autres variables endogènes qui permettent de mieux comprendre le comportement du chercheur d'emploi et plus particulièrement du jeune chercheur d'emploi (Stephenson, 1976). Par exemple, les jeunes sont caractérisés par une très grande mobilité sur le marché du travail, entre les emplois et entre les périodes de chômage et les périodes d'inactivité. Pour Burdett (1973), une seconde dimension de l'offre d'emploi doit être prise en compte : la longueur anticipée de la stabilité de l'emploi. Le chercheur d'emploi doit alors choisir la combinaison optimale salaire/stabilité. Comme le remarque Whipple (1973), il existe un certain moment où l'individu acceptera n'importe quelle offre (contrat à durée déterminée -CDD- ou intérim) pour conserver un revenu minimal jusqu'à ce qu'une offre plus intéressante soit trouvée. Deux effets s'opposent : au cours de la période de quête, l'individu voit ses coûts de recherche augmenter et ses ressources diminuer, par ailleurs l'information sur le marché du travail augmente et donc, la probabilité de trouver un emploi à un salaire satisfaisant aussi. Dans la majorité des études sur l'insertion des jeunes, l'effet ressource l'emporte. Par ailleurs, durant la phase d'insertion, les stages et plus largement le passage par différents dispositifs publics d'insertion ne sont pas sans influence sur le processus de recherche d'emploi à la suite du stage comme l'ont montré plusieurs travaux sur des données françaises (Bonnal et *alii*, 1995 ; Pénard et Sollogoub, 1995). Il semble toutefois que les résultats varient fortement selon l'intérêt du stage, la formation dispensée, la sélection de la population étudiée. Le balayage de littérature proposé par Lechene et Magnac (1995) montre à cet égard que, dans les études françaises, l'absence de données expérimentales et la difficulté de "purger" les problèmes de sélection endogène, conduisent à fortement nuancer les résultats obtenus[17].

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[16] Les références de certains modèles de durées, de transitions, au modèle théorique de la quête sont parfois très lointaines. Quelques uns sont même purement descriptifs et ne se réfèrent à aucune théorie.

[17] Les auteurs précisent même : "Il y a un effet positif de certains dispositifs (on ne sait pas précisément lesquels en raison des regroupements), mais on s'interroge encore sur l'interprétation de ce résultat : est-ce un effet réel, un effet réel et un effet de sélection ou un effet de sélection pur ?"

2.2.2. Le coût et l'intensité de la recherche

L'analyse des coûts de la recherche permet de mieux appréhender le comportement de la recherche. D'origines très diverses, ces coûts peuvent être directs et monétaires (argent pour les déplacements, achat de journaux pour les petites annonces, honoraires pour les cabinets privés de placement, mais ils couvrent également l'ensemble des dépenses nécessaires à une bonne présentation du personnage : vêtements, chaussures...). Il peut s'agir également de coûts d'opportunité, c'est-à-dire le coût imputable à la perte de revenu prévu de n'importe qu'elle offre d'emploi que l'individu a rejetée ou encore de coût psychologique. Très souvent l'hétérogénéité des individus a été introduite dans la modélisation à partir de ces coûts. Ainsi, ces derniers diffèrent en fonction du sexe, de la situation de famille, de l'origine ethnique, du niveau de revenu des individus ou de leurs parents. Cependant, dans le domaine de l'insertion des jeunes, rares ont été les enquêtes qui se sont intéressées explicitement à l'évaluation de ces coûts et à leurs conséquences sur l'accès à l'emploi. Sur ce point, le modèle proposé par Wolpin (1987) est intéressant dans le mesure où il introduit un horizon de recherche fini où le jeune chercheur d'emploi est obligé d'accepter n'importe quel emploi. De plus, il intègre la possibilité que l'individu puisse chercher un emploi avant la fin de la scolarité, ce qui permet d'expliquer que certains individus trouvent immédiatement un emploi après leur sortie du système éducatif. Dans un cadre spatial, les coûts de recherche et éventuellement de migration, permettent d'expliquer les stratégies individuelles. Différents travaux théoriques ayant introduit l'espace dans la fonction d'utilité de la recherche d'emploi, montrent que la fonction de gain du chercheur d'emploi est décroissante pour des raisons spatiales (Seater, 1979 ; Sudgen, 1980). D'autres travaux ont également intégré la possibilité de changer de lieu de résidence dans la recherche d'emploi[18], la condition nécessaire de la mobilité est satisfaite lorsque les gains de la recherche dépassent les coûts monétaires et psychologiques. La stratégie du chercheur d'emploi résulte d'une comparaison entre les espérances d'utilités intertemporelles de résider dans une zone géographique plutôt que dans une autre. Testé sur des données françaises, le travail de Kria (1996) tend à confirmer que les mobilités de formation et d'emploi sont profondément liées dans l'accès à des niveaux de salaires supérieurs.

D'autres travaux se sont intéressés à la distribution des offres d'emploi. Il semble par exemple raisonnable de penser que le chercheur d'emploi a une intensité de la recherche variable qu'il peut influencer. L'intensité de la recherche permet d'augmenter la probabilité de recevoir une offre mais engendre parallèlement des coûts de recherche croissants (Burdett et Mortensen, 1980). Un des principaux apports sur ce thème, l'article de Benhabib et Bull (1983), montre que l'intensité optimale de la recherche, c'est-à-dire le nombre optimal de candidatures par unité de temps est une fonction non décroissante du temps. Cependant, l'estimation de Wadsworth (1990) sur des données britanniques montre que l'intensité de recherche peut être expliquée par de nombreux facteurs individuels : elle est toujours supérieure pour les plus hauts niveaux de diplôme, pour les chercheurs d'emploi les plus jeunes, mais devient moins élevée pour les femmes qui ont des enfants à charge et pour les hommes qui connaissent des problèmes de santé ou qui se trouvent depuis deux dans une situation de chômage. L'estimation par Moreau et Visser (1991) du modèle de quête de base,

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[18] Voir par exemple Greenwood (1985) ou Gordon et Vickerman (1982).

semblable à celui proposé par Lancaster et Chesher (1983), sur des données françaises, rejoint les résultats précédents : le taux d'arrivées des offres est plus lent chez les femmes et les moins diplômés. Cependant, aucune explication théorique ne vient étayer ce résultat. Le modèle théorique de Kahn et Low (1990) présente sur ce point l'intérêt de formaliser quelques explications dans le cadre du processus de quête. Ils supposent que la probabilité de trouver un emploi est influencée par la demande et le stock d'informations des individus. Ainsi, la stratégie de recherche de chaque individu pourra être différente selon son stock d'informations. Sa demande d'information sur le marché du travail devient une fonction de ses caractéristiques personnelles et de son environnement. La formalisation permet en outre de modéliser le recours aux intermédiaires sur le marché du travail afin d'expliquer les raisons qui incitent les individus à les utiliser dans la recherche d'emploi. De nombreuses études plus empiriques ont par la suite montré que l'utilisation d'intermédiaires n'était pas sans influencer le processus de recherche et la qualité de l'emploi (Holzer, 1987 ; Curtis et Warner, 1992). Cependant, la majorité des enquêtes de cheminement ne retiennent que le mode d'intermédiation qui a permis d'accéder à l'emploi et non les différents moyens utilisés parallèlement par l'individu. L'étude de Holzer (1987) est l'une des rares exceptions puisque ses données comprenaient le temps passé à l'utilisation de chaque intermédiaire et le nombre d'intermédiaires utilisés dans la recherche d'emploi. Les données administratives issues des organismes publics de placement restituent une information plus riche sur l'intensité de la recherche et permettent d'accroître la prédictibilité du modèle de quête, comme le montre Bradley (1993). Elle présente cependant l'inconvénient de ne s'intéresser le plus souvent qu'à un mode d'insertion des jeunes, très spécifique.

L'incidence de la durée passée au chômage sur la situation future de l'individu a suscité de nombreux débats au niveau empirique comme le soulignent Pedersen et Westergard-Nielsen (1993). Deux types de raisonnement sont susceptibles d'expliquer la dépendance entre la durée passée au chômage et la situation future de l'individu : le passage par le chômage handicape pour trouver un autre emploi, ou inversement, le chômage touche essentiellement des individus plutôt défavorisés qui retourneront plus fréquemment au chômage[19]. L'enjeu est de taille pour l'orientation des politiques de lutte contre le chômage mais également pour les politiques d'aides à l'insertion. Si le passage par de longues périodes de chômage handicape les chances de retrouver un emploi, alors la politique publique doit aider les jeunes en leur proposant des périodes d'activités. Dans le cas contraire, les mesures d'aides doivent être ciblées vers les groupes les plus défavorisés qui ont le plus de chance de connaître souvent des périodes de chômage. Techniquement, la solution passe par une correction de l'hétérogénéité. Dans le cadre de l'insertion des jeunes, de nombreux travaux montrent que la période initiale de chômage que connaît un individu n'est pas sans influence (négative) sur sa situation future (Lynch, 1989).

2.2.3. L'homogénéité de la demande de travail

La plupart des résultats sur les comportements sur le marché du travail obtenus par des modèles de *job search* sont traités du côté de l'offre. De nombreuses critiques portent sur le fait que la distribution des offres de salaire est exogène pour des

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[19] La distribution de l'hétérogénéité change au cours du temps (problème du *mover-stayer*).

individus d'un même niveau. Or un des problèmes fondamentaux de l'insertion des jeunes vient du fait que la probabilité de trouver une offre est rare. Puisque les offres d'emploi et les salaires sont d'habitude fixés par les firmes, les résultats de ce modèle sont valables si seulement le comportement optimisateur d'une partie des firmes peut conduire à expliquer les disparités des offres et des salaires entre les firmes ? Comme le souligne Gravot (1993), l'insertion des jeunes dépend en dernier ressort de l'acceptation par l'employeur et est donc affectée par le comportement de ce dernier. Différents travaux ont essayé d'expliquer la rareté des offres d'emploi dans le cadre d'un comportement optimisateur des firmes. Certains se sont intéressés au manque d'information sur les aptitudes des demandeurs d'emploi, en introduisant des différenciations d'appariement dans l'emploi (Mortensen, 1978) ou l'utilisation de filtre permettant de sélectionner les candidats les plus productifs. Le niveau de diplôme, signal de la productivité future, devient un des ces filtres (Arrow, 1973) de même que les différents indices liés aux caractéristiques personnelles, intrinsèques des individus (Spence, 1974) ouvrant la voie à différentes procédures discriminatoires d'embauches. Les entreprises essayent de minimiser leur coût de recherche tout en diminuant l'incertitude sur la productivité de l'individu. Mortensen (1970) fut l'un des premiers à montrer que la firme avait, par la fixation du salaire, un pouvoir de monopsone sur la main-d'œuvre. Cependant, ce pouvoir de monopsone devait disparaître sur le long terme en raison de la concurrence entre firmes. Pissarides (1985) a trouvé, dans la littérature, deux types d'explication :

- une variation exogène de la demande d'outputs ; dans ce cas, la distribution des offres de salaire changera selon que la demande d'outputs est faible ou importante (Lucas et Prescott, 1974). Les variations exogènes de la demande sont introduites dans les modélisations empiriques par des indicateurs exogènes à l'enquête tels que le niveau de chômage local. Les effets sont en général significatifs sur la durée de chômage mais deviennent plus ambigus pour expliquer le taux d'entrée au chômage ;

- une variation de la productivité du travail dans les différentes firmes ; la productivité peut varier en fonction de l'apprentissage interne (Salop, 1973b), des techniques de production ou de l'appariement entre différentes caractéristiques de la firme et du travailleur (Mortensen, 1978 ; Jovanovic, 1979).

Les modèles de *job matching* permettent par exemple de montrer que les entreprises ne sont pas indifférentes au choix des individus, même s'ils ont un niveau d'éducation identique. Les candidats pourront être plus ou moins bien appariés à un emploi, et donc disposeront de productivités différentes. Or cette productivité des employés ne pourra pas être évaluée ex ante, mais seulement après une relation de durée. La séparation entre l'employeur et l'employé sera d'autant moins probable que la relation d'emploi s'inscrit dans la durée. Dans ces conditions, tout stage ou tout travail effectué par un jeune chercheur d'emploi dans l'entreprise sera un indicateur plus ou moins important de sa productivité. Dans le modèle proposé par Jovanovic, la productivité d'un individu pour un emploi est indépendante de la productivité pour un autre emploi. Lors de tout appariement, il est possible d'évaluer en une période la productivité moyenne des individus pour l'emploi. Lorsque la vérification de la productivité est immédiate au moment de l'embauche, les niveaux de salaires proposés par la firme deviennent une fonction croissante de l'évaluation de la productivité du candidat[20].

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[20] Cependant, selon Hirshleifer (1973), il convient de considérer le travail plutôt comme un bien d'expérience que comme un bien d'inspection.

Les employeurs peuvent fonder leur politique de recrutement sur les caractéristiques des candidats et notamment sur leur histoire. Blanchard et Diamond (1990) proposent par exemple un modèle de *matching* où les employeurs sélectionnent, parmi des individus identiques, ceux qui ont la durée la plus courte de chômage. Cette politique rationnelle se justifie par le fait que des durées longues de chômage sont synonymes d'une part, de dépréciation des qualifications, et d'autre part, d'un manque de dynamisme de l'individu lors de sa recherche. De même, Cahuzac (1995) propose un modèle de recherche d'emploi où le nombre d'employeurs qu'a connu un travailleur par le passé peut être considéré comme un signal de productivité au moment de son embauche.

Des modèles d'équilibre ont essayé d'intégrer les formalisations des comportements de recherche des offreurs et des demandeurs d'emploi. Le chercheur d'emploi est en quête d'une offre d'emploi intéressante en matière de salaire et l'employeur cherche à pourvoir un poste vacant. Les stratégies sont optimales dans la mesure où chacun cherche à maximiser son revenu futur. Ce type de modélisation permet de déterminer la distribution des salaires à l'équilibre, mais il introduit également une réflexion plus générale sur l'efficience de modèles de *search*. Pissarides (1984) souligne qu'un raisonnement en termes d'efficience et d'externalités au niveau de la collectivité peut justifier le refus d'un emploi vacant par un individu. Cependant, il semble que les études empiriques ne conduisent pas encore à des résultats très concluants[21]. Par exemple, le modèle présenté par Eckstein et Wolpin en 1995, et testé sur des cohortes de jeunes américains sortant du système éducatif, met en évidence des disparités de comportement en fonction de l'origine ethnique et du niveau scolaire. Les auteurs soulignent toutefois la nécessité de disposer de données sur la demande de travail pour progresser dans l'estimation de ce type de modèle.

Que peut-on conclure de cette mise en perspective de quelques travaux théoriques et empiriques ?

D'abord, dans la majorité des cas, les prédictions des différents modèles théoriques sont largement vérifiées dans les différentes études empiriques. Les modélisations de plus en plus techniques ont souvent permis de s'affranchir de problèmes inhérents aux données pour obtenir des résultats très performants. La richesse de ces travaux et leur apport dans le cadre de l'insertion des jeunes masquent cependant de nombreuses difficultés. Comme le remarquent Pedersen et Westergard-Nielsen (1993) ou Devine et Kiefer (1993), de nombreux progrès doivent être faits pour améliorer les méthodes et harmoniser des résultats parfois paradoxaux. Leur balayage de la littérature montre que les résultats de certains travaux sont parfois opposés, même lorsqu'ils s'intéressent à des populations identiques, notamment en ce qui concerne les effets de l'assurance chômage, l'influence de la durée de chômage, l'influence des stages de formation[22]...

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[21] Nous reprenons la critique de Pedersen et Westergard-Nielsen (1993) sur le modèle d'équilibre proposé par Eckstein et Wolpin (1990).

[22] Caro (1996) dans une critique de la production scientifique en sciences économiques précise que dans la littérature "l'anticipation rationnelle d'un lecteur d'un article techniquement satisfaisant est qu'il a une bonne probabilité d'être suivi par un autre article qui fera la démonstration du contraire en manipulant les mêmes instruments de la légitimité économétrique". Sans reprendre à notre compte ses propos, il convient de nuancer la portée de modèles structurels de quête qui sont souvent présentés comme une preuve irréfutable de la véracité de résultats testés empiriquement.

La littérature économique sur l'insertion, à partir de ce corpus théorique, pose par ailleurs quelques problèmes liés à l'information présente dans les enquêtes de cheminement et aux méthodes utilisées. Ainsi, la population observée est loin d'être homogène, le fait de sortir en même temps du système éducatif ne réduit que partiellement cette hétérogénéité. Si une partie de cette hétérogénéité peut être appréhendée par certaines caractéristiques (le sexe, l'âge...), le non observable demeure important. Malgré l'existence des procédures techniques capables de réduire cette hétérogénéité, elle n'en demeure pas moins profondément liée à l'information présente dans les données. Le meilleur moyen est indiscutablement d'augmenter l'information présente dans les enquêtes.

Par ailleurs, lorsque les travaux empiriques tirent des conclusions générales sur le marché du travail à partir d'études micro-économiques basées sur l'offre de travail, celles-ci sont soumises à des hypothèses très restrictives. Il devient souhaitable de disposer d'informations indépendantes de l'enquête comme le montrent certains travaux.

Enfin, lors des différents tests empiriques, la variable endogène est souvent très pauvre en information par rapport à la diversité du parcours d'insertion ; il s'agit par exemple de durées de chômage ou de probabilités de sortir d'un état. On pourrait imaginer que des variables plus riches seraient plus fiables.

3. INTÉRÊTS ET LIMITES DE LA THÉORIE DE LA QUÊTE POUR APPRÉHENDER LE PROCESSUS D'INSERTION DANS LES ENQUÊTES LONGITUDINALES

La première partie de notre travail a souligné l'intérêt et les difficultés auxquelles se sont heurtées différentes études pour expliquer les typologies de trajectoires dans les enquêtes de cheminement. La seconde partie a mis en perspective les travaux théoriques et empiriques qui ont servi de référence à l'explication de l'insertion des jeunes par la théorie de la quête d'emploi. Sociologues et économistes ont élaboré une série de concepts qui montrent la richesse et les limites des enquêtes longitudinales. Devenue opératoire par ses extensions, la théorie de la quête a permis des modélisations de plus en perfectionnées et des avancées significatives dans le domaine de la compréhension du processus d'insertion sans toutefois "lever le voile" sur certains problèmes. Ainsi, les modèles de quête et leurs applications empiriques utilisent et expliquent des indicateurs d'insertion relativement pauvres en information, en se servant des variables explicatives disponibles dans les enquêtes de cheminement. Améliorer la compréhension des problèmes d'insertion semble passer alors par deux types d'interrogation sur la validité des méthodes utilisées pour appréhender le processus et sur la pertinence des informations disponibles dans les enquêtes de cheminement.

Dès lors, une réflexion sur l'information présente dans les enquêtes longitudinales s'avère incontournable.

3.1. Des variables endogènes capables de saisir l'information ?

La phase d'insertion se matérialise par une succession de plusieurs états : chômage, stages, formation, emplois précaires, emplois stables... La séquence de ces états constitue la trajectoire spécifique du jeune. Elle est le résultat de phénomènes d'interactions complexes entre son comportement et son environnement. Recueillir de façon exhaustive toutes les informations sur le passage des individus par ces différents états et la durée dans ces différents états permet de décrire de manière factuelle le résultat de ces interactions. Chercher à caractériser un parcours (un chronogramme) par un indicateur unique revient à choisir une stratégie de synthèse de l'information disponible. Le calcul d'indicateur de valeur moyenne est la stratégie la plus simple et elle a été utilisée dès le début des études de cheminement dans toutes ses variantes y compris les plus sophistiquées (les modèles de durée par exemple). Cependant, la quantité d'informations synthétisée par un tel indicateur est considérablement réduite par rapport au chronogramme initial. D'où l'intérêt de trouver des méthodes qui permettent de prendre en compte la complétude de l'information ou le maximum d'informations : les modèles multi-états, de transition, semblent prometteurs mais les modèles structurels manquent. D'autres se sont intéressés à la construction plus ou moins complexe de trajectoires types. L'ensemble des parcours individuels est partionné en un certain nombre de trajectoires représentatives, chacune de ces trajectoires représentant un itinéraire moyen d'insertion emprunté par une partie des individus de la cohorte. La démarche postule le caractère non aléatoire des parcours individuels. Elle n'impose pas une vision unitaire des parcours.

Une série de travaux méthodologiques contribue à l'exploitation de trajectoires types à partir des chronogrammes. Les différentes études ont toutes mis en évidence une très grande hétérogénéité des trajectoires d'insertion. Un schéma unique de l'insertion ne semble plus se justifier, et les indicateurs statistiques traditionnels amputent considérablement la réalité et la diversité des parcours. La variable créée à partir des études typologiques permet de synthétiser une quantité d'informations beaucoup plus importante et peut être utilisée facilement par l'analyste. Elle apparaît comme une variable endogène riche dans la mesure où elle est bâtie sur la totalité de l'information (ensemble des situations, des durées et/ou des transitions). La plupart des travaux (Béduwé et *alii*, 1995 ; Degenne et *alii*, 1994 ; ...) montre une segmentation forte des trajectoires. Une partie des individus s'insère "bien", c'est-à-dire accède très vite à un emploi stable et le conserve. A l'autre extrémité de la typologie, on trouve des jeunes qui n'ont pratiquement jamais accédé à un tel emploi ou qui ne l'ont conservé que pendant une période très brève. Cette segmentation forte, déterminée par le calcul, ne fait que systématiser des observations directes des chronogrammes dont la diversité apparaît à l'oeil nu. Par ailleurs, la majorité de ces travaux a fait l'objet par la suite, à partir des typologies construites, d'exploitations statistiques (Espinasse, 1994 ; Houzel et Le Vaillant, 1994 ; Jalaudin et Moreau, 1995) ou économétriques (Béduwé et *alii*, 1995 ; Degenne et *alii*, 1994 ; Tahar, 1995). Les résultats sont généralement ambigus : les variables sociales, l'âge, le sexe, le choix de formation ont une influence, mais la puissance des modèles est souvent faible. Les variables potentiellement explicatives contenues dans les enquêtes utilisées ne permettent que très imparfaitement de prévoir la trajectoire suivie à partir des caractéristiques observées sur l'individu.

Ces trois constats conduisent à une évaluation nuancée de ces typologies, mais également de l'ensemble des méthodes qui utilisent les informations du chronogramme. La mise en évidence de trajectoires types fortement contrastées explique et dans une certaine mesure permet de maîtriser l'ambiguïté des comparaisons inter-cohortes. En effet, comparer le poids respectif des groupes "galère" dans deux cohortes est techniquement supérieur à la simple comparaison des durées d'accès à l'emploi. La diversité des trajectoires montre les précautions qu'il faut prendre avant de régresser sur une valeur moyenne.

3.2. L'incomplétude des données

L'absence de données est inhérente aux enquêtes longitudinales. En effet, au vu de la seconde partie de ce travail, malgré les prouesses techniques de nombreuses études, on n'a pu que constater la rareté de certaines informations élémentaires dans les modèles de quête. Le salaire de réserve ou le nombre d'offres d'emploi ne sont presque jamais connus, les informations sur la demande de travail sont généralement absentes ou sont étudiées *ex post*, lorsque l'individu a accédé à l'emploi. Enfin, les enquêtes ne laissent filtrer qu'un vecteur de la compétence nécessaire à l'accès à l'emploi qu'est le niveau de diplôme, généralement identique pour tous les individus. Certes, le recueil d'information a un coût dont il faut tenir compte. Il semble cependant, au regard de ces différents travaux, que certaines directions peuvent être privilégiées.

3.2.1. Des informations sur les stratégies individuelles

Le comportement de l'individu lors de la recherche est très souvent occulté. La partie précédente a souligné la parcimonie des informations dans les enquêtes de cheminement sur les différentes démarches des individus, les méthodes de recherches utilisées, le salaire de réserve, les offres éventuellement refusées, la sélection à un entretien, la zone géographique sur laquelle se concentrent les recherches, l'existence d'un projet individuel qui incite le jeune à cibler une catégorie d'emploi, ou ses attentes vis-à-vis de l'emploi recherché. De même, associer le début de la période d'insertion à la sortie du système éducatif est une hypothèse pratique pour l'observation statistique mais lourde de conséquences sur la compréhension de l'insertion. Les chances de s'insérer plus rapidement sont probablement plus élevées pour un individu qui commence à envoyer des candidatures spontanées durant sa dernière année scolaire que pour celui qui décide de prendre trois mois de vacances avant de se concentrer activement à la recherche.

L'explication des stratégies individuelles apparaît ambiguë[23]. D'une part, l'insertion est souvent présentée comme la résultante de stratégies rationnelles et de contraintes d'agents micro-économiques capables d'infléchir leur trajectoire. D'autre part les travaux empiriques soulignent majoritairement le poids des différents facteurs susceptibles d'influencer la trajectoire d'insertion (l'âge, le sexe, l'histoire professionnelle passée, la localisation) et masquent la diversité des décisions individuelles. Les difficultés rencontrées par les économistes rejoignent sur ce point celles des sociologues, les analyses quantitatives sur un grand nombre d'individus

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[23] Voir Béret (1992) pour une réflexion plus approfondie sur la distinction entre agents optimisateurs et acteurs dans la théorie économique et l'explication des mobilités d'accès à l'emploi.

rendent difficile une information pertinente sur les décisions de chacun et donc sur l'explication de trajectoires individuelles. Ainsi, des informations "plus subjectives" sur le passage de l'individu dans le système éducatif ne seraient pas dénuées d'intérêt : a-t-il choisi sa formation, sa filière, s'est-il intéressé ou a t-il été déçu par l'enseignement, a-t-il travaillé parallèlement pour financer ses études[24] ? L'étude de Wojcik (1995) est sur ce point très pertinente. Elle montre à partir d'une enquête sur 1 366 élèves de terminales BEP, que 82 % souhaitent poursuivre leurs études après le BEP, mais que 64 % sont prêts à renoncer à l'obtention du BEP si un emploi leur était proposé. Les motivations individuelles semblent donc de plus en plus complexes dans un contexte de crise. Dans le même sens, pour des niveaux de qualification plus élevés (sur des données australiennes), le travail de Heaven (1995) souligne le poids de certaines variables psychologiques sur les stratégies de recherche des jeunes étudiants comme leur motivation pour accéder rapidement à un emploi, leur crainte du chômage, leurs opinions sur le chômage... Les résultats montrent que les motivations individuelles des étudiants et leurs attentes par rapport au marché du travail semblent fortement liées aux performances futures d'insertion.

3.2.2. Des informations sur la demande de travail

Les enquêtes de cheminement rassemblent avant tout des informations sur l'offre de travail, et de ce fait, ne permettent que de façon très limitée de tirer des conclusions sur la demande de travail. S'il est admis que certains comportements obéissent à des logiques discriminatoires entre les individus d'une même cohorte, peu d'informations sont disponibles sur les raisons qui ont incité l'employeur à sélectionner et recruter un individu parmi l'ensemble des demandeurs d'emploi. La probabilité de recevoir une offre est déterminée par la probabilité qu'une offre d'emploi soit émise sur le marché du travail des jeunes. Or, ce type d'information est absente des enquêtes longitudinales d'insertion ou de cheminement. La répartition des offres d'emploi est loin d'être homogène dans l'espace et dans le temps, et de plus, des concurrences intra et inter-générationnelles peuvent influencer ces disparités (Béduwé et Espinasse, 1995). Seule, une partie du comportement des recruteurs est appréhendée : le choix effectué parmi des jeunes d'une même cohorte (ou de plusieurs cohortes). Auparavant, l'employeur a très certainement émis un choix entre les niveaux d'expérience et de diplôme requis pour l'emploi, la spécificité de la formation (générale ou spécialisée). Lors d'un rationnement de la demande, il semble exister des effets de substitution entre les diplômés mais également entre les diplômés et les travailleurs expérimentés. Certaines professions peuvent harmoniser leur décision en faveur par exemple des baccalauréats professionnels par rapport aux BEP ou aux CAP, d'autres préfèrent faire appel à des travailleurs non ou moins diplômés mais plus expérimentés (Béduwé et Espinasse, 1995b).

Dans une optique différente, on peut également s'interroger sur la pertinence des différents indicateurs de la qualité de l'emploi obtenu par l'individu. Le salaire et le statut apparaissent comme les gages d'un "bon" emploi. Ces variables sont cependant fortement réductrices par rapport à la réalité. Quid des possibilités de promotion interne, de l'intérêt de l'emploi ou les différents avantages non monétaires ?

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[24] Peu d'informations sont disponibles sur les ressources réelles de l'individu qui affectent ses choix éducatifs et sa recherche (ses ressources monétaires ou non monétaires).

Comme l'ont souhaité de nombreux économistes qui ont travaillé sur ce type d'enquêtes, une possibilité est de coupler à ces informations sur l'offre des informations sur la demande de travail. Parallèlement aux questions sur l'accès au premier emploi de l'individu, il serait intéressant de demander à l'employeur les raisons qui l'ont incité à créer le poste et à sélectionner le travailleur choisi. Cela permettrait en outre de disposer de meilleures informations sur la qualité de l'emploi proposé et son évolution.

Une autre possibilité pour mieux appréhender les différents effets liés à la demande est de proposer des enquêtes longitudinales sur l'évolution des pratiques de recrutement dans les entreprises. Elles offriraient l'avantage de mettre en perspective la politique de recrutement et l'évolution des structures de l'entreprise[25].

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[25] De telles enquêtes existent, mais elles sont administratives et donc plus difficilement exploitables par les chercheurs.

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CERTIFICATES, SKILLS AND JOB MARKETS IN EUROPE

A SUMMARY REPORT OF A COMPARATIVE STUDY
CONDUCTED IN GERMANY, SPAIN, FRANCE, ITALY,
THE NETHERLANDS, UNITED KINGDOM

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Abstract

The growth of the educational level is generalised in Europe. It essentially takes the form of a lengthening in the duration of youth training which propagates itself in the whole active population through a demographic process. Each generation is "better educated" (formed longer) than the previous one.

Through a CEDEFOP's support, a comparison of these propagation mechanisms has been realised in six countries of the European Union.

The main results concern the evolution of competence structures by profession. In an astonishingly convergent manner for the six countries, a model has put forwards the strong importance of a training offer effect in explaining the internal transformations that have occurred up to now in occupations.

The training development undertaken in the different countries has largely modify the relative scarcity of the different workforce categories. One can affirm that, globally, firms of these countries have not benefited in a large extent from this modification to adjust the competence structure of their professions.

Résumé

Diplômes, compétence et marchés du travail en Europe
Rapport de synthèse d'une étude comparative menée en Allemagne,
en Espagne, en France, en Italie, aux Pays Bas et au Royaume Uni

L'élévation du niveau d'éducation est générale en Europe. Elle se traduit essentiellement par un allongement de la durée de formation des jeunes et se propage dans l'ensemble de la population active par un processus démographique, chaque génération étant " mieux formée " (formée plus longtemps) que la précédente.

Grâce au soutien du CEDEFOP, une comparaison de ces mécanismes de propagation a été réalisée dans six pays de l'Union européenne.

Les principaux résultats concernent *l'évolution* des structures de compétence par profession. Une modélisation a mis en avant, de façon étonnamment convergente pour les six pays, l'importance déterminante d'un effet d'offre de formation pour expliquer les transformations internes survenues dans les professions.

L'effort de formation a fortement modifié les raretés relatives des différentes catégories de main-d'œuvre. Globalement, les entreprises des pays concernés ont relativement peu utilisé cette modification pour réaménager les structures de compétences de leurs professions.

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1. THE GENERAL QUESTION

The rise in the level of education is a phenomenon which can be observed throughout Europe in general. Essentially reflected by prolonged training for young people, it is spread throughout the working population as a whole in terms of a demographic process, each generation having experienced more education than the previous one. This phenomenon is measured on the basis of the average or structural rise in the level of certification of the working population over time.

In the various countries, this rise in the level of education may assume different shapes and forms as a function of the history of the educational/training system and, more generally, the history of the societies in question. The principal disparities are to be found at the level of the respective weight of vocational training, on the one hand, and the organisational arrangements for vocational training, on the other. It is nevertheless striking to note that in all countries certification has hitherto essentially been acquired at the beginning of working life, continuing training playing a relatively insignificant role in this context.

Although prolonged education is a general and continuous trend to be observed in all countries, it is neither completely homogeneous nor linear in time and shows specifically national inflections and accelerations, in particular in the recent period (from 1986 in France, from 1990 in the United Kingdom, from 1975 in Spain), the effects of which shall not really be observed for several years to come.

Finally, the job markets and economies absorbing this surplus of "human capital" also have very evident peculiarities of their own.

All countries have made considerable efforts to upgrade educational/training policy, with the more or less explicit objective of contributing to economic development by adapting their manpower to the rapid advance of technology in order to create more favourable conditions of national or international competition with a view to combating unemployment in general, and youth unemployment in particular.

The poor success rates, at least on the unemployment front, and the profound change in the attributes of the manpower resulting from these policies have made it necessary to compare the long-term consequences of these policies for the functioning of the job market, mechanisms of access to employment and the foundations of social mobility.

More precisely, this study examines the question of competition for access to employment by means of the term "skills" which in this context takes account of both certification level and vocational experience, and not, as is often the case, certification alone. This means that competition for access to employment can be considered within the much more general perspective of competition between generations, on the one hand, and in terms of distribution of skill supply, and not, as it is again often the case, in terms of the demand for skills, on the other.

INFLECTIONS LINKED TO NATIONAL ISSUES

From the outset, the French study (Béduwé et al., 1996) was focused on the question of job renewal and the position of young people within these movements in an attempt to explain the apparent paradox that the younger generations who have experienced more education than the previous generations show a lower level of job integration and are more massively hit by unemployment. This type of question on the access of young people to employment directly implies consideration of this problem in terms of generalised competition between generations with different levels of certification. Discarding the classical approach of vocational insertion in terms of skill requirements, the team used an approach based on trends in training supply. This structural approach to skills, as opposed to the traditional cohort-type approaches, is explicitly based on the relations of complementarity and comparability or substitution between certificates and vocational experience. People starting off in the job market have a career of 40 years ahead of them during which their skills may develop even if their certification level has every likelihood of remaining stable.

In view of the economic context of the period under review, the Spanish team (Majuan et al., 1996) was more cautious about the hypothesis of non-regulation of the educational/training system by needs implied by our results. Important developments on the economic, political and social fronts in Spain highlighted the new and particular position of this country within the European Community. In the opinion of the Spanish team, the process of the growth in supply is dictated by the fact that the Spanish economy has to a certain extent had to "catch up" in terms of skilling and is therefore more dependent on the development of the employment system than other countries.

Robinson (1996) pointed out that over and above our underlying concern - the high level of unemployment in the European countries - it was also necessary to examine the links between this rise in the level of education and the sharp increase in wage inequalities since the end of the 1970s, an issue clearly specific to the United Kingdom. To what extent can present trends in the evolution of supply explain these two problems?

Dronkers (1996), on behalf of the Netherlands, positions the field of investigation of the study in the context of the debate on the surplus of education which he reformulates as an alternative between the micro and macro levels of the relationship between training and employment. The growth in education and its - relative - economic success at micro level are called into question by an evident loss of the effective relationship at macro level. This clearly raises the question of the objective followed by public education policies and, downstream, the collective effort related to their funding. As Dronkers emphasised, the Netherlands, as a "small" country, cannot send out signals very different to those of the "big" European countries in the field of educational/training policy, a point which provides further justification for an international comparison of research work on these questions.

For the Italians (Battistoni and Mocavini, 1996), the relationship between the training level of supply and the composition of occupational structure according to level of

training is one of the job market's mechanisms of adaptation to the conditions of a post-industrial society. The rise in the level of education is therefore one of the paradoxes of a society characterised by the dematerialisation of production, the pre-eminence of information and productivity gains leading to growth without jobs which is still hesitating (resisting?) to move in the direction of a leisure society.

The German contribution (Lutz and Ortmann, 1996) is based on the same fundamental question as those underlying the other studies: it starts out from the research of the 1970s on the "penetration" into employment of young people having experienced more education/training. It picks up the debates between approaches in terms of "manpower needs" or the social right to education, interrupted since the 1980s in view of other scientific and political priorities.

2. THE THEORETICAL POSITIONING OF THE STUDY

Let us briefly examine the theoretical framework for analysis of the interactions between the educational/training system and the system of production and, more specifically, the elements for a dynamic study of changes related to occupations (their nature, content, skill requirements), on the one hand, and the distribution of the certificate-holders produced by the educational/training system, on the other.

This comparative study basically raises two types of question: firstly, the logic of the distribution of the ever-increasing number of certificate-holders within the job market and, secondly, the interactions between explicit training (generally evidenced by a certificate) and other skill components acquired by means of informal mechanisms, in particular vocational experience.

2.1. The logic of the distribution of certificate-holders

A number of theories put forward hypotheses to explain the distribution of certificate-holders in the job market.

Human capital theories tend to establish a positive correlation between level of education and productivity and interpret the demand for education as a function of its economic profitability, either in individual (Becker, 1964) or "macro" terms (Denison, 1962), whereby public spending on education/training is regarded as investment in the promotion of economic development.

According to this theory, the increase in the demand for education and its direct consequence, a rise in the number of certificate-holders, constitute a response to the higher skill requirements of the system of production. Although it recognises other forms of skill acquisition, e.g. work experience, the human capital theory attributes a central role to schools in enhancing the skills and productivity of the workforce. The general tendency of jobs to require increasingly higher levels of skilling and the rising headcounts of the occupations requiring these skills implies a growth in certificate-holders.

Within this theoretical framework (which presupposes pure and perfect information), the education/training system is regulated by the needs of the job market. Any excess

of skill supply diminishes the yield of educational/training investment and therefore reduces the demand for education.

Despite considerable criticism developed at length in the literature, the human capital theory has provided the basic reference framework for public education policies in recent decades. This theory has justified state intervention and support for the process of mass education as a contribution to increasing the productivity of our respective countries.

The "credentialist" theories, on the other hand, are based on the existence of a market of "credential acts", certificates and qualifications related to formal education, whose value is more dependent on supply and demand than the "knowledge and abilities" acquired in the course of training (Collins, 1979). According to the credentialists, the screening process is based on the signal sent out by the certificate in a job market in which information on the quality of supply is imperfect (Arrow, 1973 ; Spence, 1974).

Blaug (1985) distinguishes between two versions of the credentialists' screening hypothesis: according to his strong version, certificates only serve to identify the personal attributes of the individual, but cannot either improve or transform these attributes[1]. According to his weak version, screening by certificate is a response to the employer's uncertainty about the future output of job-seekers. Screening according to certificate and other characteristics, e.g. gender or ethnicity, is based on the employer's previous experience that by and large they tend to reduce uncertainties relating to working quality[2]. In this case, credentialism may be close to human capital theories, under the assumption that a university education increases a person's productive capacity.

Just as in the human capital theory and despite the departure from the hypothesis of pure and perfect information, the educational/training system is also considered to be regulated by skill requirements. An over-abundance of signals would make them inoperable and in the long term lead to a decline in the demand for education.

However Rawlis and Ulman (1974) show that the "statistical discrimination" strategy, related to imperfections in the "credentials" market, may lead to educational inflation, notably via an "exogenous" increase in the certification of the population. An abundance of certificate-holders leads to longer queues of applicants and therefore higher recruitment costs. To keep their recruitment costs steady, firms are obliged to raise their certification requirements, which contributes to a process of educational

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[1] Blaug (1985), "The screening hypothesis clearly has dramatic implications for educational/training policy. The difficulty of the hypothesis is that it comes in two versions: a strong version and a weak one... The strong version of the screening hypothesis asserts that education merely identifies students with particular attributes, acquired either at birth or by virtue of family background, but does not itself produce or in any way improve those attributes " (p.21).

[2] According to Spence (1974), the screening of individual candidates may take place according to two criteria: indices which concern the personal, intrinsic characteristics of the candidates and signals which the individual may modify, e.g. certification level or vocational experience. The employer may regard certain indices as inappropriate for the quality of the work in question and impose very high signals on the individuals concerned; these are generally persons from disadvantaged groups with low levels of education.

inflation. "If the criteria employed for certification in the educational system match the needs of the firm, educational certification may lower the firm's selection costs. Moreover, given an increase in the proportion of externally certificated applicants, the firm can secure the same average level of employee at lower wage and recruitment expenditures and hence with a shorter queue of applicants. However there is no reason why the certificated proportion itself may not come to exceed the amount demanded at any wage recruitment level, especially as prospective employees come to recognise the need for educational credentials. If the increased incidence of certification is not supported by a corresponding increase in the proportion of workers of desired quality at this level, the outside screening mechanism loses efficiency. The firm's selection costs rise - unless and until a higher level of formal educational attainment makes its appearance. And to the extent that the employer's demand for a screening subsidy is politically influential, both directly and through the popular demand for job-entry credentials, it contributes to a process of educational inflation." (Rawlis and Ulman, 1974, p. 233).

Other theoretical studies have proposed elements offering a better understanding of the logic of certificate distribution in the job market, in particular those which could be classified under the "mismatch" between education and employment. These studies highlight new factors inherent to the education/training and production systems which may impact on certificate distribution, without however excluding elements already contributed by the human capital and credentialist theories. These studies focus approach on the conflicts resulting from the autonomous dynamics of the education/training system, on the one hand, and the system of production, on the other (Carnoy and Levin, 1985). The most important elements contributed by these theories for the purposes of our study are as follows:

- The dialectic conflict relationship between education/training and employment, characterised by mismatch and mutual influence.

- The multifunctionality of the educational/training system and the conflictual nature of its different functions. Carnoy and Levin (1985) show how the history of the US education/training system is marked by a succession of periods characterised either by the logics of adaptation to the needs of a capitalist society or equality of opportunity.

- The production of expectations among trained persons as an element of conflict between educational/training systems turning out a large volume and a very wide range of skilled persons and the capacity of societies, and notably job markets, to fulfil these expectations.

This type of approach is not incompatible with "public choice"-types of analysis.

These analyses highlight the links between educational supply and demand from a more political angle. In fact, education/training cannot be reduced to a problem of a merely economic nature, but is also partly political, insofar as it is a public asset. Public education/training policies are influenced by various pressure groups defending their interests, which it is often in the interest of the public authorities to satisfy. In this case, educational policy emerges as the result of a consensus between heads of

enterprises, teachers and their trade unions, young people and their parents and educational/training policymakers.

Part of the literature therefore seriously raises serious doubts about these classical - and dominant - theories leading to mechanisms regulating the quantity of human capital and/or credentials as a function of market requirements.

This is the angle taken by our study: our working hypothesis clearly assumes an - at least partial - exogeneity of educational/training demand. This hypothesis is contrary to the dominant (human capital and filter) theories which start out from regulation by the skills supply market. It is also distinguished by its planning work which was inspired by the manpower approach. In these approaches, educational/training demand is "set" by the planner on the basis of an analysis of trends in labour demand.

2.2. Substitution of certification and experience

The two principal means of acquiring human capital are general and vocational training obtained within the educational/training system and training acquired in the job market, subdivided in turn into on-the-job-training and continuing training.

The human capital theory shows that persons with different implicit and explicit levels of training may be equivalent for a given job. These two types of training are therefore partial substitutes in terms of skills production. However the degree of substitution may vary insofar as an employer may consider a minimum level of experience and/or initial training to be indispensable for a given job. In contrast, in terms of credentialist theories, the two components are often complementary insofar as certification is merely a screening filter, and not a guarantee of skills. It is therefore up to the employer to complete the candidate's training for the job in question.

The theory of competition for access to jobs (Thurow, 1974) is a variable of the filter theory, whereby the employer's attention is focused on the candidate's aptitude for training and therefore certification level is a good signal. However the employer will tend to give preference to vocational experience, especially in-company job experience. This is why some jobs are as a priority offered in the internal market. Young school-leavers with no general and *a fortiori* specific job experience find themselves excluded from internal markets and at a disadvantage as far as their competitive position in the external market is concerned. At the bottom of the queue, they have little opportunity of up-skilling by acquiring experience and/or continuing training. Continuing training in fact rarely appears as a second chance if young people have not had the first chance (within the education/training system), (Planas, 1996).

Unlike the previous approaches, the segmentation theory illustrates different job markets with more or less rigid and more or less institutional barriers to mobility. The employer's choice (between young certificate-holders and also between persons of different age) therefore follows social, administrative or economic rules justified by the general policy of the firm in question.

According to this theory, initially put forward by Doeringer and Piore (1971), jobs are to be found in two types of market - the primary and the secondary markets - which

are in turn divided into several components. The structure of the job market follows technological, as opposed to social, requirements stemming from the technical complexity of the process of production. Experience and learning are privileged by employers and are generally better remunerated, especially in the primary market. Level of training serves as a screening mechanism, but wages are determined by the characteristics of the job, not by the attributes of the employee. Human capital not deployed in the workplace is devalued. The substitution of certification and experience is therefore partly regulated by the segmentation of the job market, which in itself is determined by technological development and institutional rules.

These theoretical elements show that, like initial training, experience is an inescapable component of individual skilling, both in the internal and external markets. The inclusion of this dimension in the analysis and consideration of the interactions between these components is the second major hypothesis of our study, the hypothesis being that skills are traded in the labour market and that these skills are co-produced by the educational/training system and the system of production. The specificity of beginners is that they have no work experience.

3. STATISTICAL RESULTS AND THEIR ECONOMIC INTERPRETATION

CEDEFOP agreed to co-finance a study comprising teams from six EU Member States centred on the following three objectives:

- to set up a network of teams specialised in the economics and sociology of the relationship between training and employment,
- to carry out an initial comparative exercise of statistical discrimination,
- to draw up a common field of investigation as a basis for comparative research on the dynamics of interrelationships and interactions between the system of production and the education/training system.

This phase of construction of a field of investigation around comparable databases is coming to an end. Each of the six Member States has compiled the necessary data to which the methodology initiated by the French team from LIRHE has been applied.

Four principal results have been obtained from the statistical discrimination exercise. The first two (1 and 2) concern statistical data observation, cross-referencing "occupations" with certification level and the age of the workforce, highlighting a considerable diversity of the skill structure of the various occupations according to age and level of certification, i.e., by approximation, in the skills structures of the various occupations.

The second two results (3 and 4) concern trends in skill structures in each Member State over a period of approx. 10 years. The results of a modelling process[3], they highlight, with a surprisingly degree of convergence for each of the six Member States, the determining importance of the effect of training supply as an explanation for the internal transformations within occupations. This effect of supply thus plays the role of the "background music", as it were, which, once a known and measured

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[3] The methodology used is described in Annex 1.

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quantity, pinpoints the residual effects which are interpreted as market effects due to the specific behaviour of occupations to ensure their renewal.

In its preliminary phase, nevertheless essential for the quality and viability of the results advanced, the statistical work led to the set-up of a common "occupations, age and certification" job market database for the six Member States.

The occupation is a category of employment with related characteristics in terms of the content of the work carried out, usually with reference to the level of complexity of tasks, the specialised field involved (in terms of academic specialisation and/or functional deployment in the firm) and more rarely relating to the sector of activity or the worker's status. This applies to the six Member States examined, even if significant divergence remain in the logics of classification.

Training level essentially identifies the length of training, most frequently in initial training and evidenced by a diploma. Training level is an individual characteristic. Classifications according to training level clearly differ from Member State to Member State. The basic criterion of length of training may be combined with the type of training acquired (general, technical, vocational) or the nature of the training providers (public education, firms, etc.).

Age is used as an approximation of the length of working life which is in itself considered as an approximation of vocational experience, whereby this term covers all types of formal or informal learning acquired in the firm or elsewhere which are not attested by a diploma. Measurement of age does not pose a particular problem.

The information is coded in national employment and training classifications. These classifications are not necessarily comparable; they do not have the same logic of construction or the same level of detail. However this is not a problem for the proposed exercise insofar as the comparison is not between occupations themselves, but the manner of development of their internal structures. Consideration from this dynamic point of view makes the question of the comparability of classifications less crucial and in no way hinders the convergence of national results.

Throughout this study, the term "occupation" is understood in a very broad sense as a category of employment. It is based on the coding of individuals' activity with the help of classifications. For reasons of statistical viability related to the size of the national samples, they were grouped into a number of posts variable from one country to another. The macroeconomic framework of this exercise occasionally attributes the occupation with the role of a player but this is clearly a linguistic simplification - it is of course the firms which recruit staff. In an ex post situation of equilibrium, the impact of this recruitment on the composition of the occupations is analysed according to certification and age.
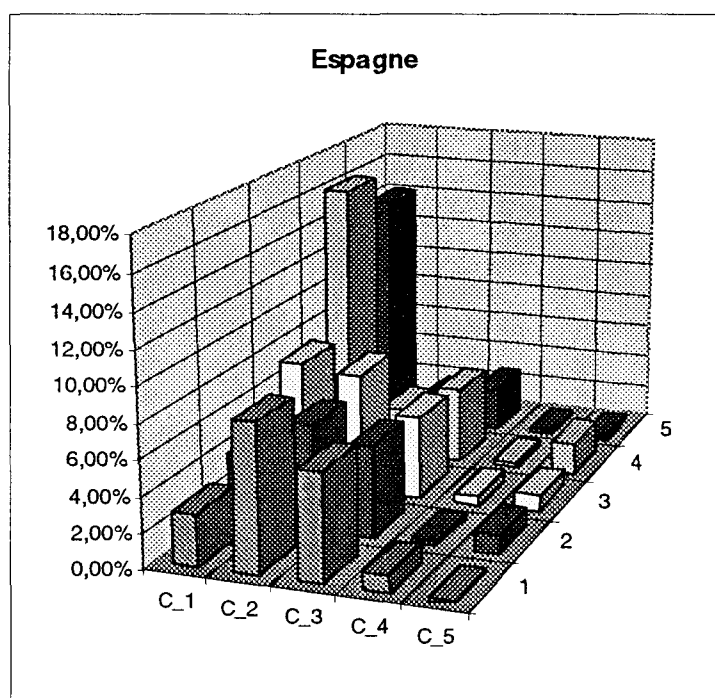
1 - Observation at a given point in time of the structure of occupations according to certification level and age indicates a relationship between training and employment based on interrelated phenomena:

- There is a preferential deployment of certain certificates in certain occupations, even outside regulated occupations, each occupation thus being clustered around one or several certification levels.

- These internal certification structures within occupations are themselves closely correlated to the age of the workforce. Generation after generation, the educational/training system develops and produces flows of certificate-holders differing in terms of quantity and level, each person probably bearing the traces of the average level of his/her generation. Each generation thus has a specific certification structure of its own.

- If it is accepted that a person in employment has the necessary skills to do the job, this diversity of certification levels within the same occupation and the manner in which it varies according to the age of individuals demonstrates the plurality of the routes of access to that occupation: access to an occupation may in principle take place at any time in working life, but on the basis of a minimum of skills, as a function of (at least) certification and experience.

This is based on the theoretical hypothesis of a relationship of equivalence between level of certification and level of experience, i.e. between explicit and implicit training. These two components are individually complementary. Beginners have no experience and those who have no qualifications have no certificate. But, at the level of an occupation and in terms of recruitment, they are globally exchangeable: for the same job, an employer may have the choice between a young person with high qualifications or an adult with a much lower certification level, but much more experience.

These phenomena as a whole serve as a stimulus to reconsider the question of the vocational insertion of young people (and therefore also of unemployment) and, more generally, of access to employment in the framework of inter-generational and inter-training levels, and not only between levels.

Skill structures in the "secretary" category in Spain[4]

Espagne

The first result is statistical, i.e. based on observation of an occupation at a given point in time. For example, this exercise was carried out for all the six Member States in the category "secretaries, office and administrative employees" (*cf.* Graph. 1 for Spain; Annex 2 for the other Member States). The occupations in each of these groups are not strictly the same - far from it - but it is not a question of comparison in this context. The graphs show that each occupation has its own "signature", a function of the certification and age of the workforce, unique at a given point in time, and evidence of the relationship of equivalence between implicit and explicit training.

2 - The rise in the level of education changes the structure of the working population according to certification and, ultimately, that of the various occupations; in fact the concomitant increase in executive, technician and other skilled category jobs is not sufficient for the uniform absorption of this educational/training surplus.

In parallel with this general rise in educational levels, a growth in the numbers of higher skilled, to the detriment of lesser skilled jobs can be observed within the working population in each of the six Member States. These two developments are not *a priori* independent, but the "upward" trends in job structures alone can certainly not justify the rise in the level of education to be observed within the working population (*cf.* e.g. table 1. for Spain; Annex 2 for the other Member States). The occupations have had to absorb more certificate-holders, i.e. modify their internal

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[4] This category is not homogenous for all the countries and has been chosen for purely illustrative purposes.

rates of certificate-holders to fully absorb the rise in the level of education. This convinced us to discard any hypothesis concerning the setting of coefficients, the underlying hypothesis of the manpower approach which provides the basis for many planning studies.

Table 1
**Structures of initial (1) and final (2) certification
and induced by variation of employment (3)
in Spain**

Certification level	(1) 1982	(2) 1990	(3)
No certificate or primary education	19.5	16.9	19.7
Elementary	13.9	17.7	14.7
Upaccording to secondary leaving certificate	16.4	20.0	17.1
Vocational training	32.1	30.4	31.5
University	18.0	15.0	17.0
Total	100 %	100 %	100 %

NB: Column (3) is obtained by applying to the 1982 structure the variations in the numbers of the occupational workforce between 1982 and 1990, assuming constant coefficients of the rates of certificate-holders according to occupation.

The occupations have therefore modified their internal proportions of certificate-holders by absorbing the surplus of supply contributed by each new generation of trained persons.

The problem therefore is to determine the spread of this abundance of certificate-holders within the employment system. Has it been absorbed by the occupations most affected by significant technological change and are therefore in demand of supplementary skills or has it been distributed throughout the entire employment system?

This second hypothesis can be tested easily: it is simply a matter of simulating what the evolution of internal occupational certificate structures would have been if, starting out from their initial situation, they had only been affected by the level of training supply, generation after generation.

On the basis of this methodology, developed by the French team and reproduced on standardised data (i.e. Occupation*Age*Certification at two points in time) for each of the six Member States, we suggest three methods of estimation: the first only takes account of variations in training supply, the second, in contrast, only takes account of variations in the manpower of the various occupations and the final method takes simultaneous account of both effects.

3 - The main results of these three modelling exercises (Table 2) illustrate a surprisingly homogeneous predominance within the six Member States of a *pure effect of educational/training supply*. The continuing rise in the level of education is spread over *all* occupations in proportion to initial skill structures.

A more precise analysis of the results of the three estimations proposed shows that occupational skill structures, according to the distribution of certificate-holders, generation after generation, within the employment system are:

1) *highly dependent on the past* (Table 2, line 5).

Occupational skill structures show little variation within this period compared to the total number of entry and exit flows: depending on the Member State in question, the initial structure alone allows a forecast of 63 - 85 % of the final structure (with the exception of the Netherlands where the observation period is longer). This means that firms have broadly reproduced previous trends in their recruitment and promotion choices, and in particular have respected the previous balances between recruitment of (more highly qualified) young people and promotion of (less qualified) younger people in the various occupations.

Job renewal takes place by the entry into employment of young people coming up directly from the training system and/or the occupational mobility of human resources with equivalent skill levels. The states observed are momentary points of equilibrium resulting from a multitude of movements of entry into and exits from employment. The (relative) stability of skill structures over approx. 10 years, taking account of these movements, shows that the labour market has continued to function and that there has been no general obstruction of social and/or vocational promotions. Thus, e.g., at the end of the period, relatively young executives with a low level of certification can still be found who were probably promoted in the interval.

This upward mobility has coexisted with phenomena of unemployment and/or declassification of young people.

This demonstrates that the ratio of equivalence between explicit (school-based) and implicit (on-the-job) training, suggested by the statistical observation of the age*certificate of occupations was also maintained over the period under review, despite the significant increase in certificate-holders. This confirms that competition for access to jobs must be analysed as a phenomenon of generalised competition.

2) *largely predicted by the rise in the level of education of successive generations* (supply variation model, Table 2, line 6).

Occupations in general have benefited from the rise in the level of education, and not only a restricted number of occupations with a particularly high incidence of technological development, as might initially have been expected. In other words, this rise in the level of education due to the arrival in the labour market of increasingly qualified generations is spread over all the occupations in proportion to their initial skill structure.

This result demonstrates a strong supply effect in the development of occupational skill structures, independent of their differentiated demands.

The general character of this result makes it to a certain extent predictable. Knowledge of the long-term production of educational/training system means that subsequent skill structures can be broadly "predicted".

The correlation between the final occupational skill structure and the initial structure modified only by trends in supply lies between 80 and 91.9 %, depending on the Member State in question (with the exception of the Netherlands). These results are shown in line 6 of the table.

These results, in particular their convergence within six Member States with their own training and employment systems, imply that the social demand for education/training is independent of the needs of the economy. Although this is not a new idea, this study suggests a formalisation and a quantification of the predominance of the effect of supply on which it is based.

3) *largely independent of variations in the strength of the workforce in the various occupations*

Taking into account, not only the effect of supply, but also variations in the strength of the workforce in the various occupations, does not significantly improve the estimation of skill structures, as comparison of the supply effect model (line 6) and the simultaneous effects model (line 8) shows.

One could have expected these changes in structures to have been linked to the growth or decline in the occupations, these quantitative trends being indications of both highly different entry and exit flows and probable changes in contents. It appears on the contrary that trends in skill structures are not related, or only slightly related, to variations in the strength of the workforce according to occupation.

If variations in the strength of the workforce in the various occupations are regarded as indicators of skill demand, this result indicates that the development of skill structures is largely independent of this demand. In other words, the effect of demand appears to be negligible compared to the effect of supply.

If we seek to make a very general projection of occupational skill structures, information on the evolution of the production of certificate-holders by the educational/training system is sufficient to gain a relatively precise idea, regardless of the variation in the demand of occupations elsewhere.

This apparent independence of skill structures of trends in workforce strength in each occupation suggests a skills surplus in the Member States observed: in any case, it is very unlikely that the development of the economies considered has been impeded by a dearth of skills (apart perhaps from *ad hoc* deficits of extremely specialised skills which are not observed at macro-statistical level).

4 - This effect of supply acts as very loud "background music" (trend) to the explanation of skill variations. Control of this means that the preferential adjustments vis-à-vis the various workforce categories can be studied, occupation by occupation.

Modelling means that one can predict, essentially on the basis of the evolution of supply, the future skill structure of occupations in proportions ranging from 68.8 % in the case of the Netherlands to 92.5 % for the United Kingdom (line 8). The part which remains unexplained by the model must be interpreted occupation by occupation.

The results of the analysis of these residual effects are immediately operational: for each of the Member States it is possible to list the occupations which are "deviant" compared to foreseeable average behaviour as a function of the evolution of training systems. This provides a three-group typology: occupations which have consumed more certificates than envisaged, those which have consumed fewer and, finally, those whose behaviour corresponds to the projections.

This work regarding the classification of occupations was carried out by the Netherlands and Germany but it is not possible to draw any "economic" conclusions on the means of deployment between the various groups.

The UK contribution focused on the specific question of certificates of higher education.
Robinson takes the example of secretaries who, in the UK, as moreover in the Netherlands, tend to have a higher certification level than could have been projected; this may be due to two types of phenomenon which might initially seem contradictory: technological evolution or the declassification of university graduates.

It is possible, data permitting, to go a step further by reintroducing into the residual analysis the breakdown according to the two equivalent skill modalities, i.e. certification and experience. This exercise has so far only been carried out for France and Spain.

Occupations therefore show different and thus preferential behavioural patterns to those expected, not only compared to the average certificate level (UK, Netherlands) or structure (Germany), but also in terms of the possible complementarities-substitutions between diplomas and experience; this indicates arbitrations by employers between highly qualified young candidates and/or (older) more experienced employees for a given job.

Occupations can thus be classified according to their forms of arbitration between implicit and explicit training.

In the case of France, this typology leads to the conclusion that skilled occupations (in terms of job qualification, executives, intermediary occupations, skilled workers and employees) have generally preferred to draw on experience and/or the experience + certificate tandem. In contrast, lesser skilled occupations seem to have had more frequent recourse to certification than could have been projected. The least that can

be said is that utilisation of certification does not seem to be very closely related to the development of skills, i.e. technological trends.

The Spanish results are very close to the French ones. It can be observed that most of the occupations have consumed more diplomas with or without experience than the initial situation would have suggested. The general trend is towards substitution in favour of younger and more certified persons - although this does not mean that this group is not particularly hard hit by unemployment. Finally, it appears that as in France, but in a more discreet form, employers tend to call more on experience than certification in certain occupations involving skilled or semi-skilled manual work.

Table 2
Determination (R2) of coefficients between different estimates of the occupations*age*certification tables

Model	France	Italy	Germany	Netherlands	Spain	United Kingdom
Period of observation	82-90	81-91	79-91	73-92	82-90	84-94
Results: workforce						
(1) Variation observed	74.2	48.1	72.9	21.5	85.9	60.8
(2) Variation in skill supply	83.3	56.6	91.4	71.5	91.7	86.2
(3) Variation in skill demand	80,0	70,4	79.9	33.7	87.9	71,1
(4) Simultaneous variation in supply & demand	93.7	91.3	93.2	82.5	93.8	93.7
Results: structures						
(5) Variation observed	79.4	63.3	69.6	14.2	84.7	71.9
(6) Variation in skill supply	91.2	80.0	87.2	66.3	89.2	91.9
(7) Variation in skill demand	79.4	63.3	69.6	14.2	84.7	71.9
(8) Simultaneous variation in supply & demand	91.8	83.2	87.1	68.8	88.5	92.5
(9) Correlation between the effect of supply model and the simultaneous effects model	99.6	95.3	99.9	98.1	99.5	99.7

4. CONCLUSION

• In very general terms, the results of this European study have demonstrated a predominance of an "effect of supply" in trends relating to internal occupational skill structures in all the Member States included in this study.

Two hypotheses, apparently contradictory, but in fact undoubtedly complementary, are generally advanced to answer this question (Robinson, 1996).

The first, the credentialist hypothesis, maintains that in view of the increasingly skilled workforce, employers merely raise their skill requirements for each occupation in a manner which is very predictable in terms of trends in actual supply. These higher-level requirements may in themselves be dictated by a disinterest in certification (recruitment of those who apply ... and those who apply have a certain composition reflected in recruitment) or due to knowledge of trends in supply which acts as a filter (one recruits upwards because the supply is there and there is no reason to deprive oneself ...).

The second hypothesis, more commonly evoked in analyses on skilling, maintains that this general increase in skill requirements by occupations stems from significant changes in the field of technology and/or the need to improve competitiveness. These trends mean that each occupation requires a more highly skilled workforce for its production needs.

It is difficult to make a choice between these two interpretations of the same phenomenon, in particular given the lack of empirical and relatively general studies on the subject, and partly in view of the fact that these interpretations are eminently political in their significance (Dronkers, 1996). The results of the study have nevertheless clarified certain processes under way and more clearly distinguished what is related to which one.

The initial interpretations suggested by the CEDEFOP study largely seem to validate the former hypothesis in the light of the effect of the degree of the effect of supply and its identification in the six Member States examined. Indeed, the explanation by supplementary skill needs is hardly compatible with the result of the distribution of the effect of supply throughout all the occupations.

Employers thus respond to the increase in skill supply by raising their skill requirements, not (necessarily) because they need a better skilled workforce to do the work, but because they recruit the manpower available in the market.

This effect of supply necessarily (automatically) leads to problems of declassification at the beginning of working life.

It would also seem that over the periods observed, the system of occupational and social mobility has continued to redistribute social positions, thus reducing and offsetting declassifications at the beginning of working activity according to the

already-mentioned principle of equivalence between implicit and explicit training (Béduwé and Espinasse, 1995). The internal and characteristic diversity of each occupation is globally maintained.

However the hypothesis of a strong "credentialism" is *a priori* contradictory to certain elements of the functioning of job markets observed elsewhere: Why then is there not a faster saturation of the levels of certificate-holders by occupations? What is the explanation for the fact that occupational mobilities, in particular upward mobilities, have been maintained during this period? How, at least in the case of France, should the durability of the relationship of equivalence between certification and experience be interpreted? Finally, how are the ever-higher unemployment rates among the most highly certified youngsters to be understood?

The answer to these questions undoubtedly lies in the part of the adjustments which does not explain the effect of global supply, i.e. in the heterogeneity of occupations, translated, despite or over and above the effect of supply, by preferential modes of recruitment.

There are numerous occupations to be found in all the Member States for which upskilling is higher - or possibly lower - than the average predicted by the effect of supply. These residual gaps have been interpreted as market effects corresponding to the adjustments effected by the occupations to relative rarities of supply (Béduwé and Espinasse, 1996). This means that within certain occupations, which can be identified, technological change has been sufficiently significant or more significant than elsewhere for an increase in demand in terms of recruitment to have really taken place. This interpretation however cannot be applied to occupations as a whole.

• A second important result, common to all the Member States examined and which stems directly from the predominance of this effect of supply, concerns the insignificance of the effect of demand in explaining the variations in occupational skill structures.

An initial model to explain this phenomenon was put forward (Espinasse and Vincens, 1996). It is based on the idea that recruitment for each occupation takes place within a sub-assembly of skilled persons (eligible from a given skill threshold), these skills corresponding to various particular combinations of certification and experience. A simple model of access to employment illustrates that the two principal results of our statistical work (proportionality to skill supply and independence from occupational workforce variation) imply an adequate availability "of eligible persons" in all categories in order to prevent bottlenecks. Indeed, the extreme deficits of one or several workforce categories would imply dissymetric use of categories incompatible with the results. **Subject to the precautions of utilisation concerning this type of exercise, the modelling exercise seems to validate the hypothesis of the absence of skills rationing in the economies of the six Member States within the periods considered.**

This explanation is generally accepted by all the teams in our network, even if certain nuances are necessary for specific Member States. In Spain, the growth in the occupational workforce has had a stronger impact in explaining the trends of

structures according to certificate than elsewhere (Majuan et *al.*, 1996). Similarly, Italy is the only country for which the "demand" model is better than the "supply" model in terms of numbers. This is an avenue of research which should be followed up.

• If this diagnosis is accepted, it clearly places the relationship between training and employment in a rather unorthodox light. In particular, an analysis still widespread in the social debate views the intensification of educational/training effort as a remedy to unemployment and, more generally, to all the difficulties of our economies. This analysis - if our interpretation is correct - is based on the existence of a dearth of skills to which a training effort should constitute a remedy.

However, our results and our interpretation of these results raise the question as to how the development of the educational/training system leading to an (over)abundance of skills has been possible without any knock-on effect on demand for education/training. The political repercussions of this rise in the level of education and of the acceleration it has shown for a number of years are fundamental questions for the development of training systems.

The fact that our societies continue to intensify the initial training effort, despite its relative ineffectiveness in combating unemployment, in particular youth unemployment, indicates a consensus on to this question. Three players are directly involved in the rise in the level of education/training: the state, firms and young people. Each player has two possible strategies: to prolong training or not to prolong training. The problem is the same for each of our six Member States, even if the forms assumed by prolonged education/training differ according to the specific contexts and national characteristics of the training systems in question. It is clear that the three players have an interest in applying the strategy of prolonging education. The firms see the threefold interest of pressure on wages, the constitution of a skilled manpower reserve to respond to production fluctuations and an increased opportunities of manpower management. The task of the state is to do its best to guarantee availability of skills. On the other hand, over and above this long-term task, holding back young people within the training system has the short-term advantage of keeping them off the dole queue. As for the young people and their families, in view of current levels of unemployment and the low marginal cost of training, it is in their interests to obtain the highest possible level of diploma to acquire the maximum level of skilling. The three players see training as a means of safeguarding themselves against the uncertainties of skill trends and the long-term development of technicalities.

This policy has thus been advantageous for the three players in question and has constituted a consistent and consensual response to the context created in the six Member States by the simultaneous emergence of the globalisation of the economy, the accelerated advancement of technical progress and the sharp rise in unemployment. The disadvantages (declassification of young people, probable decline in the social and individual profitability of educational investment, the exclusion of the lesser qualified, etc.) have generally been insignificant, despite the disparities in the wake of national provisions prolonging education/training (e.g. the level of youth unemployment).

The problem therefore is whether policies of this type can continue and whether the cost/benefit ratio of a policy geared towards prolonging education shall remain positive. A further question is how the observations of our work and its underlying hypotheses can elucidate trends in the relationship between training and employment over and above merely observing facts.

• To return to our results, the sharp rise in the level of initial training programmes has not prevented the labour market from continuing to produce implicit knowledge enriching individual qualifications. The mechanism of co-production of skills by the educational/training system and the system of production still exists. This is demonstrated by the continued diversity of modes of occupational access. This is demonstrated by the predictability of this diversity which constitutes the principal result of this statistical work.

In contrast, the conditions of co-operation of these two systems have profoundly changed. The labour market, needing to renew all or part of those leaving it, tends to recruit youngsters with a higher degree of training who in the long term shall on average be more skilled with a given level of experience than their predecessors.

Although our empirical work is silent on this matter, it could even be supposed that the acquisition of skills by the combination of implicit and explicit training is increasingly rapid if it is accepted that a higher level of initial training means that one can better acquire and better exploit knowledge acquired in occupational life.

Confronted with increasing competition upon entry into the labour market, young people in the course of training have no other option to increase their competitiveness but to upgrade their level of training. They therefore participate in the phenomenon of the acceleration of the distribution of skills described above and shall in turn become the formidable competitors of their juniors tomorrow. The process of the skills distribution has self-accelerated.

The effects of the change in the entry level of young people into the market are reproduced downstream at the level of the working population. A measure of educational/training policy may have implications via this mechanism for the conditions of employment (or even the employment) of those who left the educational/training system a long time ago. They are also reproduced upstream of entry into working life via the anticipations they trigger among young people currently in education and their parents.

It therefore seems that an approach in terms of generalised - skill-based - competition between the workforces of different generations with different levels of training constitutes a fertile field of research of which the results of this study are only the first fruits.

• The elements of analysis which we have identified offer several advantages in approaching the question of occupational mobilities, and more precisely the question of variations in the practices of mobility under the influence of the distribution of certificates. These rules shall be modified in at least two ways. Firstly, directly: the

greater availability of skills reduces, all things being equal, each individual's chances of promotion. And secondly, indirectly: if firms use this greater availability of skills to raise their requirement levels beyond what is technically necessary. The chances of being competitive for a job therefore diminish for everyone, all things being equal.

However a fourth player must be brought unto the stage. Although not directly involved in the initial training system, this is a player who in the long term may have no interest at all in this rise in the level of education persisting, i.e. the wage-earners already on the spot, the "insiders" (and their trade unions). They have always benefited from either social occupational or second-chance promotions throughout their careers. Our results show that over the periods under review, these mobility systems have persisted, but the continuation of the acceleration of the production of certificate-holders will bring young people into the job market who, as demonstrated, become skilled more and more quickly. This continued surplus over various generations and in increasing quantity therefore risks seriously blocking the previous occupational mobilities or at least pushing wage-earners currently on the spot further down the queue. Offering higher numbers of skilled persons, the younger generation will compete more keenly than their elders.

The resulting decline in mobilities and career obstructions could become a major reason to call the present consensus on training into question. This is the question which we intend to pursue within our work.

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ANNEX 1
Methodology

The problem to be resolved was to find an estimation of the structure of occupational skills triggered by successively:
- the rise in the level of education of successive generations (supply model)
- the variation in the strength of the occupational workforce (demand model)
- the two effects simultaneously (simultaneous effects model)

Once this estimation is found, the variation in structure observed over the period of these effects of supply and/or demand can be "deflated".

The equation to be solved is as follows:

$$\Delta S = \Delta Se + Sr$$

whereby:

$\Delta S = S^f - S^i$ variation in the structure according to age and diploma within
an   occupation over the observation period

$\Delta S^e = S^i$ variation between the estimated and the initial structure

$\Delta Sr = \Delta S - \Delta Se$ variation in the residual structure

* ΔSe is the variation "imposed" by:

- the modification of the relative rarity of certificate-holders (certification structure according to generation)
- variation in the demand for each occupation (variations in workforce strength between 1982 and 1990)
- modification in supply *and* variation in demand

* ΔSr is the residual variation:

It is accounted to a modification of preferences for a given workforce category (qualified young people or experienced adults).

We propose three successive estimations.

1 - Basic Model: estimation of educational supply

The variable:

$$apda = \frac{x\, pda}{x\, da}$$

can be associated to each box of the occupation*age*certificate table, whereby x_{da} is the working population of age a with certificate d.

The αpda represent the coefficients of supply of the occupation p in the manpower category *da*.

By variation, the formula becomes:

ΔXdp = Σa αdpa ΔXda + Xda Δαdpa +Δαdpa ΔXda (1)

To isolate the effect of generational supply, one simply sets **Δα = 0,** which implies that the occupations have retained their initial arbitrations between the various manpower categories.

For each occupation p, the estimated skill structure is expressed in the form of a vector $S^e_{p,da}$ with a da dimension such as:

$$S^e_{p,da} = \frac{x^e\,pda}{\Sigma_{da}\,x^e\,pda} \quad \text{for each occupation p.}$$

This must be compared to the structure actually observed at the final date, expressed in the same way in the form of a vector $S^f_{p,da}$ with a da dimension and a p resulting in:

$$S^f_{p,da} = \frac{x^f\,pda}{\Sigma_{da}\,x^f\,pda} \quad \text{for each occupation p.}$$

The coefficients determining the model are indicated for each Member State in the table of results on line 2 for numbers and 6 for structure.

2 - Set coefficients model

The following method consists of testing the final certificate structure which would be the result if only the variation of the occupational workforce had played a role within the period in question, i.e.

$$\beta pda = \frac{x\,pda}{x\,p} \Rightarrow \Delta Xdp = \Sigma a\ \beta dpa\ \Delta Xp + Xp\ \Delta\beta dpa +\Delta\beta dpa\ \Delta Xp.$$

Δβ = 0, which implies that the structure of occupational certification is set.

The results of this method are indicated in structural form for each Member State in the text (Table 1) and in the form of a determination coefficient (using the same

scores as above) in the general table at lines (3) for the variation in numbers and line (7) for the structural variation.

NB: Given the hypothesis of the set internal occupational coefficients, this is of course the same as that of line (5) corresponding to the variation *in structure* actually observed.

3 - Simultaneous supply and demand effects model

To estimate the corresponding Se, we used a matrix simulation method used in economic planning: knowledge of the final margins of the observed matrix (margin of supply of manpower category da and margin of members of occupations p) and the composition box by box of the initial matrix, the RAS method, by successive iterations, provides an estimated matrix whose boxes correspond to the minimal deformations compared to the initial situations and the margins of which are effectively the margins observed at the final date.

RAS Method

Whereby X^0, the initial value of a matrix, $X^0 = [\ X^0_{ij}]\ i= 1...I,\ j=1...J$

whereby X^t its final value at point of time t, $X^t = [\ Xt_{ij}]\ i= 1...I,\ j=1...J$

Whereby S^t and S^t, the line and matrix column margins X^t

X^t is estimated on the basis of only X^0, R^t and S^t.
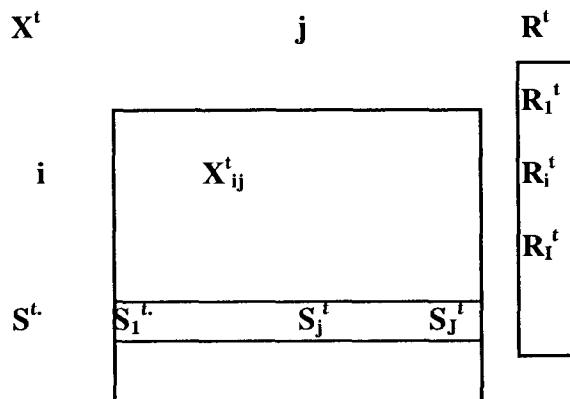
Whereby Y^{ras} is the result of this calculation, $Y^{ras} =$ estimation by RAS of $(X^t) = f(X^0, R^t, S^t)$. Calculation of Y^{ras} gives the resolution of a non-lineary system of equations whose solution is obtained iteratively.

The first line of the initial matrix X^0 is multiplied by a constant $r1$ such as:

$$r_1 \Sigma X^0_{1j} = R_1^t$$
$$\scriptstyle j=1-J$$

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to find an initial estimation of Y^{ras}_{1j} such as $Y^{ras}_{1j} = r1 \ X^0_{1j}$. The calculation is recommenced for each line i. This gives an initial series of constants **ri.**

The same operation can be applied to the columns of the matrix Y^{ras} obtained in this way. Each Y^{ras}_{1j} element on the first column is multiplied by a constant S_1 such as

$$S_1 * \sum_{i=1-l} Y^{ras}_{i1} = S_1 * r_i X^0_{i1} = S_1^t$$

and similarly for each column j which gives an initial series of s_j.

One then recommences by line, then by column and so on.

It is shown that if the algorithm converges, the Y^t matrix obtained is such that the Y_{1J}^T are closest possible to X_{ij}^0 in view of the constraints imposed on Y^t since R^t and S^t are margins.
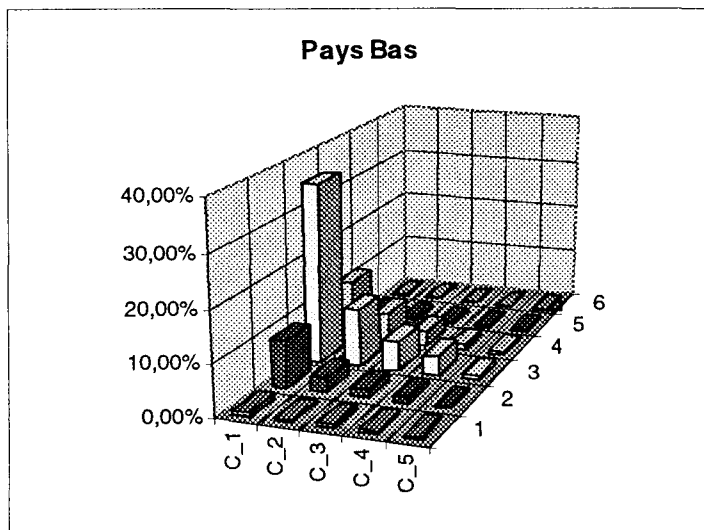
In this case X^0 is the matrix (occupations/age*certificate) observed at the beginning of the period in each of the Member States and X^t is the same matrix observed at the end of the period.

The results are indicated in lines 4 and 8 of the table of results.

ANNEX 2

Graphs and tables

Skill structures in the "secretary" category in the various Member States[5]
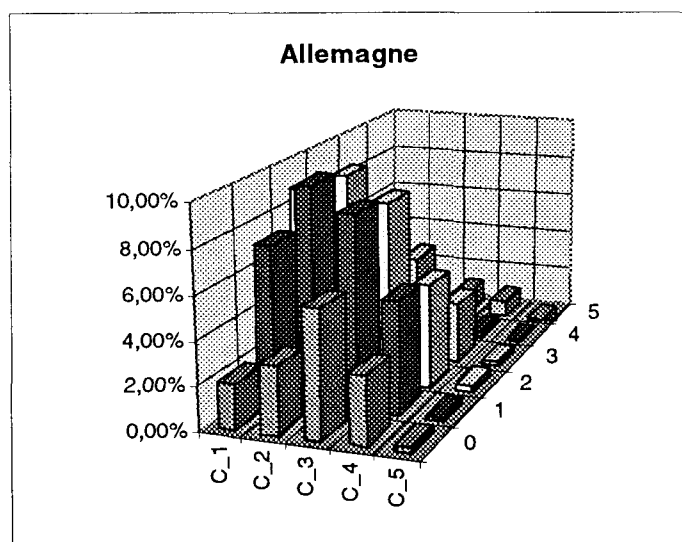
The graphs show the numbers in the "secretaries" category by level of certificate and age bracket in the six Member States.

The age brackets range from the youngest to the oldest. The certification levels are also hierarchised and correspond to the headings presented in the following tables.

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[5] The scale is different from a graph to an other. Again, this category is not homogenous for all the countries and has been chosen for purely illustrative purposes.
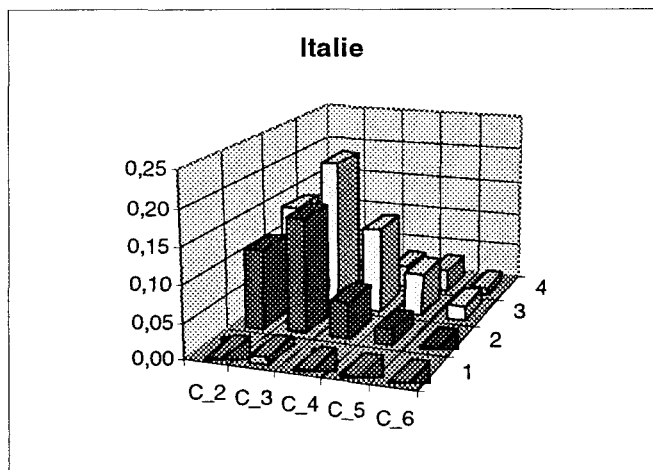
Royaume Uni

France

Italie
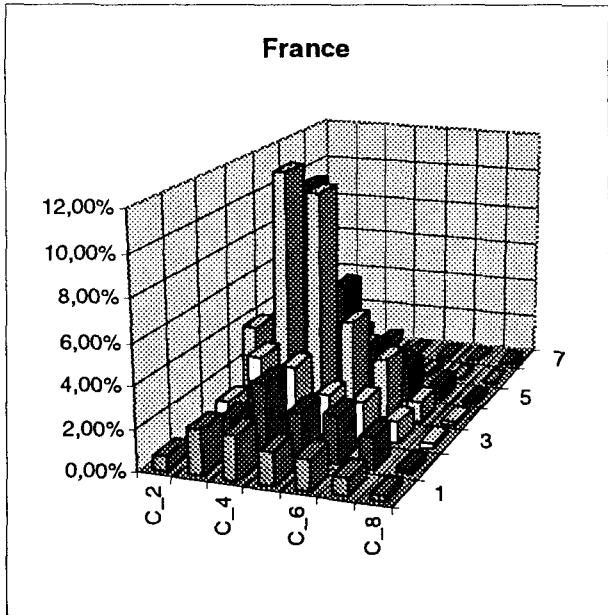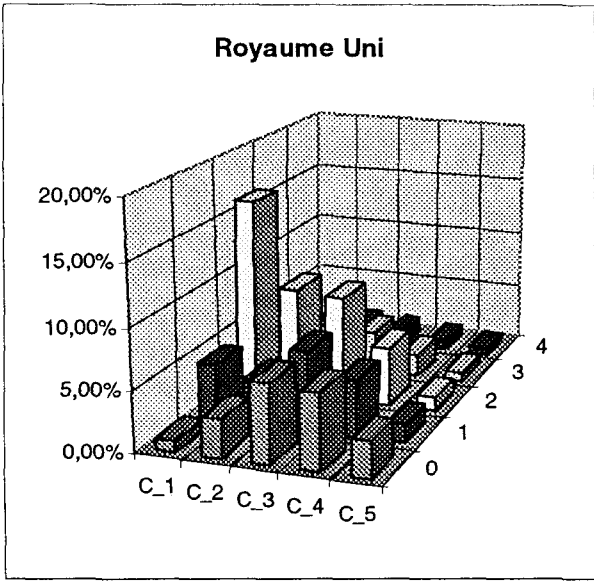
Table 1 (continued)
**Structures of initial (1) and final (2) certification
and induced by variation of employment (3)**

NETHERLANDS

Certification level	(1) 1973	(2) 1992	(3)
1 Less than primary education or unknown	23,1	0,1	18,6
2 Primary education	12,4	9,2	10,9
3 Lower level secondary education	40,3	23,7	37,1
4 Upaccording to level secondary education	14,0	43,1	18,2
5 Vocational college	6,9	16,4	10,2
6 University	3,2	7,5	5,0
Total	100 %	100 %	100 %

UNITED KINGDOM

Certification level	(1) 1984	(2) 1994	(3)
0 No qualifications	35,8	17,4	32,9
1 Other qualifications	8,8	15,4	8,4
2 O-Level or equivalent	15,0	16,9	15,4
3 A-Level or equivalent	25,3	26,6	25,0
4 Higher education	15,2	23,6	18,2
Total	100 %	100 %	100 %

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ITALY

Certification level	(1) 1981	(2) 1991	(3)
1 Higher education	5,8	7,7	5,6
2 Upaccording to level secondary education	17,4	28,8	17,8
3 Lower level secondary education	30,4	37,8	32,4
4 Primary education	39,5	23,1	38,3
5 No certificate	5,9	2,2	5,2
6 Illiterate	1,0	0,5	0,7
Total	100 %	100 %	100 %

GERMANY

Certification level	(1) 1979	(2) 1991	(3)
0 No apprenticeship, no intermed. secondary school certificate	26,9	13,1	23,4
1 Apprenticeship, no intermed. secondary school certificate	36,5	36,2	36,6
2 Apprenticeship, lower and upaccording to secondary school certificate	17,2	23,8	18,2
3 Technical school, etc.	11,4	14,8	12,0
4 Technical college (*Fachhochschule*)	2,5	3,6	3,1
5 University	5,5	8,5	6,7
Total	100 %	100 %	100 %

FRANCE

Certification level	(1) 1982	(2) 1990	(3)
1 No certificate or no answer	29,9	20,9	27,9
2 Certificate of primary education	19,2	14,6	18,1
3 Secondary school certificate	7,0	8,1	7,3
4 Level V vocational education	22,1	28,0	21,9
5 Baccalaureate plus similar	11,0	13,1	11,9
6 Baccalaureate + 2 years	5,5	7,8	6,2
7 Higher education (Bac + 3 and more)	5,4	7,4	6,6
Total	100 %	100 %	100 %

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THE INSTITUTIONAL EMBEDDEDNESS
OF THE STRATIFICATION PROCESS:
A COMPARATIVE STUDY OF QUALIFICATIONS
AND OCCUPATIONS IN THIRTEEN COUNTRIES

Walter Müller
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Abstract

Processes of stratification are imbedded in institutional contexts. We develop several hypotheses regarding the specific ways in which the characteristics of educational systems affect the relationship between educational credentials and occupational outcomes for individuals. The hypotheses are tested in a comparative analysis of results reported by the thirteen national studies included in the project on Educational Stratification and Occupational Destinations (Shavit and Müller, 1997). The results show that the magnitude of the association between qualifications and occupational outcomes are enhanced by the stratification and standardisation of national educational systems, as well as by the prevalence of specific vocational education. We also find that the association is attenuated by the rate of tertiary education in the population. In addition, in countries where vocational education tends to be occupationally specific, it enhances the odds of employment in skilled rather than in unskilled occupational classes and seems to lower the odds of unemployment. Gender similarities and differences are also explored and discussed.

Résumé

Contexte institutionnel des processus de stratification : comparaison des qualifications et de l'insertion professionnelle dans treize pays

Les processus de stratification s'inscrivent dans un contexte institutionnel. Nous développons plusieurs hypothèses concernant la façon dont les systèmes éducatifs agissent sur la relation entre les diplômes et leurs conséquences sur les destinées professionnelles. Ces différentes hypothèses sont testées grâce aux données fournies par une enquête comparatives portant sur treize pays, conduite dans le cadre du programme "Stratifications éducatives et destinées professionnelles" (Shavit et Müller, 1997). Ces résultats montrent que l'association entre formation professionnelle et performance professionnelle est renforcée par la stratification et la standardisation des systèmes éducatifs nationaux. De plus, dans les pays où la formation professionnelle prépare étroitement à un métier spécifique, elle augmente la probabilité d'occuper un emploi qualifié et réduit les risques de chômage. Les différences et similitudes entre hommes et femmes sont également examinées.

INTRODUCTION

Education is the single most important determinant of occupational success in industrialised societies. Employers rely on educational credentials when selecting individuals for specific work tasks, and individuals, accordingly, invest in education in order to improve their competitive advantage on the labour market. It is evident, that both individual investments in education and the use made by employers of qualifications, affect the pattern of association that we observe between education and labour market outcomes. But it is far from clear how precisely this association is generated in various countries. There are large differences between countries in the way education is organised. Indeed, educational systems differ greatly cross-nationally. We therefore start from the premise that the role of education in occupational attainment varies between societies. In some, education is valued for the specific vocational skills it represents, in others, for equipping workers with a level of general knowledge, while in others still, education is valued for sorting students by their scholastic ability or learning potential. The main objective of this paper then, is to identify systematic differences among countries, in the relationship between education and occupational outcomes, and to relate them to their institutional contexts.

The paper thus focuses on a specific aspect of the broader issue of social stratification and mobility in industrial societies. Education is a crucial intervening link between the social background of individuals and their later class destination (Carlsson 1958; Blau and Duncan, 1967). From earlier research we know, that among the several processes generating the intergenerational transmission of advantage, the link between education and occupational destination varies most across countries. Using the CASMIN (Comparative Analysis of Social Mobility in Industrialised Nations) dataset, Müller and his colleagues compared nine European countries in terms of the absolute magnitude of the relationship between social origin, educational attainment, and later class destination (Müller et al., 1989). They found only small differences between these countries in the extent to which social origins affect educational attainment or occupational destination, but large differences in the effect of schooling on occupational class (see, e.g., Erikson and Goldthorpe, 1992, ch. 8). What, then, are the reasons for the apparent international variation in the association between educational qualifications and occupational destinations? Which factors account for stronger or weaker associations between education and jobs?

Theories vary in the way they conceptualise the link between education and occupational outcome, in their understanding of the role of credentials in sorting, selecting, and placing of workers for jobs, and in the importance they attach to the institutional embeddedness of these processes - the latter being particularly important in understanding cross-national variations in stratification and mobility. In this paper, we develop several hypotheses regarding the specific ways in which the characteristics of educational systems affect the relationship between educational credentials and the occupational outcomes of individuals. The hypotheses are then tested in a comparative analysis of the results from thirteen national case studies reported in Shavit and Müller (1997). We begin, in the next section with a brief review of some of the major theoretical arguments regarding national similarities and differences in the pattern and magnitude of the association between education and occupational

attainment. We then formulate the major hypotheses of the study, describe its method, data and variables, and proceed to a presentation of our results. We conclude with an evaluation of the hypotheses, a discussion of the findings, and some suggestions for future research.

1. PREVIOUS RESEARCH ON THE INSTITUTIONAL CONTEXT
   OF THE PROCESS

There is little comparative research on national differences and similarities in the relationship between educational qualifications and occupational allocation as this field of research is much less developed, both theoretically and empirically, than comparative research on educational attainment (Shavit and Blossfeld, 1993; Müller and Karle, 1993; Erikson and Jonsson, 1996; Breen and Goldthorpe, 1996). One excellent example of institutionally sensitive research on the transition from school-to-work, however, is Rosenbaum and Kariya's (1989) comparative study of Japan and the USA (see also Kariya's chapter in Shavit and Müller, 1997). The school-to-work transition process in Japan differs from that of most other countries in that there are strong institutional linkages between school and universities on the one hand, and firms on the other. Schools and universities recommend students to specific employers with whom they cooperate, and these relationships have important consequences on the qualitative nature of the school-to-work transition. School performance, for example, is an important predictor of occupational attainment among Japanese high-school graduates entering the labour market[1].

Societies vary in the institutional arrangements that constrain the school-to-work transition (Kerckhoff, 1995). That is, in the structure of educational institutions, the differentiation of school tracks, curricula and diplomas, regulatory rules established by the state, employer recruitment and promotion practices, formal entry rules for specific occupations, in particular the professions, semi-professions and civil service jobs, and the role of collective actors, such as unions and professional organisations, in shaping education, training and guidelines for the recruitment and promotion of personnel.

The institutional framework existing at a given time in a particular society largely depends on solutions found in the past for the general problem of training and employment. It also depends on how conflicting interests have been reconciled in the past. Particular solutions used in the past may, however, generate new problems which call, in turn, for new solutions. Societal idiosyncrasies may thus evolve and persist over time despite convergence in other aspects of the social structure. In a recent historical study comparing France, Germany and Britain, Müller (1994) investigated the process by which the feudal order of stratification, and the systems of social control and production were transformed into modern patterns involving markets, bureaucracies and professions. He found that different traditions have evolved regarding the use of education in allocating people to jobs. In Britain, the Crown relied on the loyalty of the nobility and on the expertise available in society at

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[1] Ishida (1993) finds that the statistical association between occupation and education is not higher in Japan than in the USA and Britain, suggesting that different institutional mechanisms produce a similar stratification process.

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large, and did not develop a system of professional training for the civil service and the professions until the twentieth century. As a consequence, British education is decentralised, and organised on local, and even private bases, and has often developed through grass-root initiatives. In France, by contrast, with the destruction of the *ancien régime* - under which public offices could be bought, sold and inherited - by the Revolution, a new recruitment principle was introduced for the higher levels of public administration. A new type of educational institution, the *grandes écoles*, were created to select and train personnel to be used by the enlightened and rational state, and still largely serve this function today. The German states (Prussia, in particular) with their early development of state bureaucracies, established specific educational entry requirements for the different levels of the administrative hierarchy. These were implemented according to the principle "no office without a proper examination" (Fischer and Lundgreen, 1975). To this day, the links between education and jobs in Britain, France and Germany seem to mirror these historical roots: the association is weakest in Britain, strong in France in the allocation to the service class, and strongest in Germany throughout the occupational hierarchy.

1.1. Two types of institutional contexts: qualificational *vs.* organisational space

The exemplary study by Maurice et *al.* (1982) was among the first to develop a general theoretical framework for the study of the links between educational qualifications and labour force outcomes. Conducting a detailed analysis of work organisation, job recruitment and mobility patterns in French and German enterprises they developed a theory of societal effects, arguing that the way in which qualifications are "produced" in the educational system and their subsequent use by employers, lead to complex system-specific relationships between qualifications and jobs. They describe Germany as a system patterned along a *qualificational space*, while France is patterned in an *organisational space*. In Germany, vocational qualifications are used by employers to organise jobs and to allocate persons among them, whilst in France, education is less closely related to the workplace and vocational skills are mainly obtained on-the-job. Since organisation-specific skills are often not recognised by other employers, the association between education and jobs tends to be looser than in France than in Germany[2].

The hypothesis that firms adapt the organisation of work, personnel recruitment policies and training programmes to the output of the educational system, can be extended to other countries where the educational system focuses on general education, such as in Ireland and the USA, and work related skills are taught on-the-job. In such cases, skills tend to be firm-specific. By contrast, where the educational system produces vocationally relevant skills, firms tend to adapt the production process to the available skill pool. Consequently, in such countries, the organisation of work is similar across firms, and workers can move more easily between

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2 This difference is also reported by other comparisons of Germany and France (Haller et *al.*, 1985; König and Müller, 1986). The institutional perspective is related to labour market segmentation theory. It sensitises us to the existence of two types of segmentation - organisational and occupational - and to their differential consequences for the association between education and occupational outcomes. Similar ideas have been proposed by Marsden (1990), and by Carroll and Mayer (1986). Soskice (1993: 4) shows how the roles played by different systems of vocational training are associated with different modes of economic organisation.

organisations, but are less likely to experience a devaluation of their human-capital investments by shifting between occupations.

1.2. General *vs.* specific vocational education

The distinction between organisational and qualificational space is closely related to the debate on the pros and cons of vocational education. Virtually, all educational systems differentiate between academic and vocational education. Some scholars hold that this differentiation increases the inequality of educational and occupational attainment, with working-class students being disproportionately placed in vocational programmes which teach useless skills and label their students as dull and unmotivated (see, e.g., Shavit, 1990a). Others suggest that vocational education enhances the occupational chances of working-class students, and that vocational qualifications facilitate both finding employment and attaining skilled, rather than unskilled, jobs (Arum and Shavit 1995; Blossfeld 1994; Müller et *al.*, 1989).

The curricula of vocational programmes differ in the mix of general and occupationally-specific components. General skills include literacy, arithmetic, general cognitive skills (such as understanding and processing information, reasoning on logical grounds) and basic cultural and communication abilities. Specific skills are more instrumental to particular functional tasks and include skills such as accounting, computer programming, childcare, the mastery of specific crafts, tools or machinery[3]. Skills vary according to their transferability and utility for various work tasks and employers. General skills are usually perfectly transferable between occupations, while the transferability of specific skills is more limited.

Most educational systems offer a mix of general and specific skills. Some offer primarily general education (e.g., Ireland), others, (e.g., Sweden) also offer transferable vocational skills under broad headings, such as metalwork and teaching basic principles whilst avoiding specialisation, and yet others offer more specialised skills for particular occupations. These last are the systems which offer vocational training for hundreds of occupational titles, as, for example, in the apprenticeship systems in German speaking countries, where the teaching of occupation-specific skills is co-ordinated between vocational schools and the workplace in what is known as the dual system. In the Netherlands too, a large number of occupational specialisations are taught in specific school tracks. In such systems, the occupations specialised for would not just be carpenter, but cabinet maker or construction carpenter; and not just mechanic, but industrial machine mechanic, car mechanic, or lorry mechanic.

Where the occupationally-specific component of vocational education is large, graduates have few transferable skills, and can only cash-in on them by transforming them into the corresponding occupations in the labour market. Viewed from the demand side, where job applicants are endowed with specific skills employers are likely to hire them for corresponding occupations where they can be "up and running"

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3 Human capital theory (Mincer, 1974) employs the term "specific skills" to refer to firm-specificity. Namely, skills which are only relevant within a specific firm type. We use the term to indicate occupational specificity.

immediately, rather than engage in expensive on-the-job training. Consequently, we would expect that where education is occupationally-specific, workers with vocational qualifications are more likely to be found in skilled, rather than unskilled, occupations[4]. By contrast, where education has a weak component of skill-specificity, vocational qualifications are less likely to affect this outcome.

By contrast, in countries, where vocational education tends to be general rather than specific, workers require on-the-job training before they can be useful to employers. In such countries, job allocation follows Thurow's (1976) *job queue* model, which assumes that most skills necessary for job performance are obtained on the job. Educational qualifications are not valued for the skills they represent but for the indirect information they provide about job applicants in so far as credentials give employers an indication of the intelligence (trainability), work habits and discipline of job applicants. Viewed from this perspective, vocational education may be a handicap rather than an asset. Moreover, vocational education is less prestigious than academic education. The more successful students tend to attend the academic programmes, whereas the less successful turn to vocational education. Thus, having attended a vocational programme of education constitute a signal that the job applicant is neither bright nor disciplined.

A related issue is the involvement of employers and trade unions in the organisation of vocational training. The greater their involvement in defining curricula, setting standards, testing, and so forth, the more likely the programmes are to be relevant to employers' skill needs. This is quite apart from the fact that employers are more likely to rely on qualifications which they themselves award. Perhaps the greatest involvement of employers takes place in traditional apprenticeships, where they are directly responsible for training. Whether qualifications obtained via apprenticeships are generally recognised, however, will depend on the extent to which they are carried out under agreed and generally accepted standards. A clear distinction could be made in this respect, between the German and the British apprenticeship systems.

1.3. Standardisation and stratification

In her influential comparative study of school-to-work transitions in Germany, Norway and the USA, Allmendinger (1989) proposes a typology of educational systems based on two dimensions: *the standardisation of educational provisions, and the stratification of educational opportunity*. Standardisation refers to "the degree to which the quality of education meets the same standards nation-wide. Variables such as teachers' training, school budgets, curricula and the uniformity of school-leaving examinations are relevant in measuring standardisation". Stratification refers to the extent and form of tracking at the secondary educational level. Where stratification is high, e.g. in Germany, Switzerland and the Netherlands, students are separated early

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4 More precisely, where the occupationally-specific component of training is large, we would expect workers to be found in the occupations for which they have been trained. The occupations which comprise the skilled working-class category (see the discussion on the class schema) are predominantly those kinds of occupations for which training is offered in vocational programmes. By contrast, the occupations grouped under the unskilled working-class category are those for which training is not necessary and, consequently, does not exist in most vocational education systems. Thus, when aggregating occupations into classes of skilled and unskilled occupations the expectation as formulated here, holds true.

on into tracks which differ greatly in the curricula and in the odds that students would continue to the tertiary level. In these countries, there is also little or no mobility between tracks. By contrast, in less stratified countries (e.g., the USA and Ireland), tracking begins at a later age, the curricula of the various tracks are somewhat similar, there is more intertrack mobility and, consequently, smaller differences among tracks in the odds of continuation to tertiary education. Allmendinger argues that the coupling between educational qualifications and occupational attainment is strongest in stratified and highly standardised systems. Where stratification is high, credentials provide detailed signals about the educational achievements of job-applicants (i.e., not just "high-school graduates" but "graduated from a vocational institute of textiles"). Where they are standardised, employers can rely on credentials to represent skill content reliably. In systems with a low degree of standardisation, employment decisions are less likely to be based on education because credentials are more ambivalent signals. Breen et al., (1995) have shown that in Ireland - a weakly stratified system - employers rely on success in school because this is tested according to nationally standardised procedures, and thus workers' credentials represent their respective rank in the job queue.

1.4. Credential inflation

Where the job queue is at work, there is a built-in incentive for young people to acquire ever more education in order to stay ahead of the queue. It is argued that as ever larger proportions of the population obtain a credential, the labour market value of credentials declines. In qualificational spaces, by contrast, the value of a credential does not consist (solely or primarily) in its scarcity and position in the hierarchy of credentials, but rather derives from the specific skills it represents. Furthermore, in such systems there are natural points of exit from the educational process which correspond to specific entry portals into the labour market. Thus, in qualificational spaces, we can expect there to be less pressure to attain ever higher credentials. When comparing Switzerland and Germany, two typical qualificational spaces, with the USA and Japan, two organisational countries, we see that in the former only about 10-15 % attain tertiary degrees, as compared with over 30 % in the latter. Thus, organisational spaces tend to produce an excessive supply of secondary and post-secondary graduates, thereby lowering the value of these credentials in the labour market. By contrast, in occupational spaces, the value of credentials is preserved because it is mediated by *skill* rather than the relative ranking of workers in a more or less *unidimensional* queue.

Clearly, the labour market prospects of individuals with particular qualifications do not only depend on the number of competitors, with similar or higher qualifications, but also on the market's demand of such qualifications. Furthermore - as argued above - the demand for qualifications may adjust to their availability on the market. Unfortunately, we do not know how to measure demand for the different qualifications in a manner that is truly independent of their supply. Therefore, we focuse solely on the supply side, admittedly a gross simplification, and test the hypothesis that the value of qualifications in the occupational attainment process is related to its scarcity.

1.5. Arguments for national similarities

The arguments cited so far, focus on how national differences in educational institutions and firms can produce differences in the relationship between qualifications and occupations. By contrast, the *neo-institutionalist* approach focuses on the diffusion of similarities. Proponents of this approach (see, e.g., Meyer et *al.*, 1992) argue that the essential institutional aspects of educational systems are growing increasingly similar across countries. For example, as mass compulsory education becomes increasingly universal, and school systems adopt similar curricula (Benavot et *al.*, 1991). Scholars working in this tradition believe that the shape and content of educational institutions are "[c]losely linked to the rise of standardised models of society... and to the increasing dominance of standardised models of education as one component of these general models. These modern models of society and education and their interrelation, are similar around the world and generate educational systems and school curricula that are strikingly similar " (Benavot et *al.*, 1991, p.86).
Extrapolating from this logic, one would hypothesise that the role of educational qualifications in determining occupational attainment, will tend to converge across countries, as the latter move towards common institutional models in the domains of education and work. This hypothesis contradicts the results of the studies discussed earlier, which show interesting national variations in the institutional arrangements of the link between education and labour-force outcomes. It also contradicts the substantial diversity of institutional frameworks reported by the chapters in Shavit and Müller (1997). Nevertheless, it remains an open empirical question as to whether national institutional differences affect the pattern and magnitude of education's role in occupational allocation or not.

Another perspective predicting convergence is the *industrialisation hypothesis* (Treiman, 1970). This approach is not sensitive to institutional contexts but, rather, is cast in terms of general societal development. As a result of the rationalisation of production, international competition, and the operation of multinational companies, societies are said to converge to a common pattern of occupational stratification (Treiman, 1970). More specifically, it is expected that occupational attainment will grow increasingly dependent on educational qualifications. In the effect of education on occupational prestige, Treiman and Yip (1989) find that the variation among countries is related to the level of industrialisation. Contrary to the assumptions of enduring and consequential differences of educational institutions, the industrialisation hypothesis anticipates a similar magnitude of association between education and labour market outcomes among societies of comparable levels of industrialisation.

Thus, the two approaches, while arguing from different theoretical perspectives, predict convergence between countries in the processes under study. This prediction can be taken as a convenient null hypothesis against which to test the arguments discussed and developed in the previous sections of this paper.

1.6. Summary and hypotheses

In sum then, we distinguish between two ideal type regimes of school-to-work transitions, which, following Maurice et *al.* (1982), we label *qualificational* and *organisational spaces*. The qualificational space is characterised by a high rate of

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specific vocational education. More precisely, a large proportion of the graduating cohorts leave the educational system with specific skills and occupational identities. This is in contrast with organisational spaces where education is predominantly *academic* or *general*, and where occupational skills are learnt on-the-job or in courses taken after leaving school. The educational systems in qualificational spaces tend to be stratified, maintaining a clear distinction between academic and vocational tracks. Organisational spaces, by contrast, can be stratified to varying degrees. Some, like the USA and Ireland, are relatively unstratified, while others, such as Italy and France, maintain distinct tracking at the secondary level but allow graduates of most tracks some form of matriculation diploma and some form of post-secondary education. Another axis along which school-to-work regimes are differentiated is the *standardisation* of the school curricula and diploma throughout the national space. In some countries, the educational systems are centralised and highly standardised, while in others there are substantial variations between regions and among and within the categories of private and state schools. In addition to these institutional characteristics, countries also differ in the sheer rate of tertiary education. Since, in some countries, the size of the tertiary educational sector depends on explicit state policies to expand or limit education, this variable may also be considered, at least in a wider sense, as an aspect of the institutional arrangement of education.

We hypothesise that these variables affect the pattern and strength of the association between educational qualifications and occupational outcomes as follows:

- Hypothesis 1: Across countries, the strength of the association between qualifications on the one hand, and occupational status and class position on the other, is positively related to the *standardisation* of educational systems.

- Hypothesis 2: Across countries, the strength of the association between qualifications on the one hand, and occupational status and class position on the other, is positively related to the *stratification* of the educational systems.

- Hypothesis 3: Across countries, the strength of the association between qualifications on the one hand, and occupational status and class position on the other, is positively related to the *vocational specificity* of the educational systems.

- Hypothesis 3a: In particular, where vocational specificity is high, vocational education enhances the odds of entering the labour force in a skilled blue-collar, rather than an unskilled, occupation.

- Hypothesis 4: The effects of educational qualifications on occupational outcomes are inversely related to the proportions attaining tertiary qualifications.

The hypotheses concerning the effects of stratification and standardisation of educational systems directly follow from the earlier discussion. In stratified educational systems students are sorted early-on into different educational tracks which lead to distinct qualifications. In such systems, the differences among qualifications are clear and they are well recognised in the labour market. This should strengthen the role of qualifications in the occupational allocation process. Standardisation enhances the comparability of qualifications in the national space and

allows employers to rely on them with confidence when recruiting workers. This should appear as a stronger effect of qualifications on occupational outcomes.

With increasing vocational specificity, the school-to-work regime adopts the characteristics of a qualificational space and the links between qualifications and occupational destinations should become stronger. Historically, and to the present day, vocational training has concentrated in preparation of skilled manual workers. Thus, vocational qualifications should particularly enhance the chances of access to skilled rather than unskilled manual jobs, especially where the degree of vocational specificity is high. Furthermore, vocational specificity is a particular aspect of stratification. Where the educational system offers very specific vocational curricula, they do so in tracks which are distinct from those in which other curricula, academic or vocational, are taught. Therefore, vocational specificity, through its relationship with stratification, affects the association between education and occupational allocation throughout the occupational structure.

Finally, countries vary quite substantially in their rates of tertiary education. Excessive expansion of tertiary education should lower the labour market value of post-secondary qualifications. It should also depress the occupational prospects of labour market entrants with secondary or lower qualifications because they would be forced into competition with job candidates who are ahead in the job queue.

These hypotheses will be contrasted against the null hypotheses suggested by the neo-institutionalist and industrialisation approaches which would expect to find basic similarities between industrialised countries in the shape and magnitude of the qualification/occupation association.

2. THE COUNTRIES

Our research design is similar to that employed by Shavit et al., (1993). We invited scholars from fifteen countries for which we knew appropriate data existed - and where we knew of scholars who could, and would, participate in a co-operative effort of this kind - to analyse the transition from education to first job in their country. Of these, thirteen studies were completed and are presented in Shavit and Müller (1997). Thus, the countries do not constitute a representative sample of all possible institutional contexts of the school-to-work transition, but do exhibit substantial variation along the four institutional dimensions discussed earlier. Some are *qualificational spaces* (Germany, Switzerland, the Netherlands), others are *organisational spaces* (the USA, Australia, Britain, Ireland, and Japan), and yet others are mixed (France, Italy, Israel, Sweden and Taiwan).

Each country study (included in Shavit and Müller, 1997) gives a description of the institutional features of the educational system and the labour market, together with a report on the statistical analysis of survey data on the association between educational attainment and occupational outcomes. The present paper is a systematic meta-analysis of some results of these country studies.

In Table 1.1 we classify the countries by the three institutional variables and by the rate of tertiary education among young cohorts. The classification draws on

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information provided in the individual country studies, as well as on OECD data (OECD, 1995).

Table 1.1
Summary of national institutional contexts

Countries	Vocational specificity of secondary education (1)	National standardisation of education (2)	Stratification of secondary education (3)	Percent with post-secondary qualifications (4)
1. Australia (AUS)	1	0	0	19.00
2. Britain (GB)	1	0	0	18.90
3. France (F)	1	1	1	17.20
4. Germany (D)	2	1	2	15.00
5. Ireland (IRL)	0	1	0	13.00
6. Israel (IL)	1	1	1	33.50
7. Italy (I)	1	1	1	9.00
8. Japan (J)	0	1	0	28.00
9. Netherlands (NL)	2	1	2	23.20
10. Sweden (S)	1	1	0	23.80
11. Switzerland (CH)	2	1	2	22.00
12. Taiwan (TAI)	1	1	1	29.50
13. USA	0	0	0	25.70

Column (1) pertains to specific vocational education. A "2" identifies countries in which a large proportion (40 % or more) of birth cohorts is typically taught specific vocational skills while in formal education. A "0" identifies countries with very little instruction of specifie vocational skills (about 0-15 %), and a "1" is assigned to intermediate countries. In column (2), we classify the countries by the degree of standardisation of their educational system. The third column classifies the countries by the degree to which their secondary education is stratified. Finally, column 4 reports the cohort proportions who obtain a post-secondary qualification.

In the *Vocational specificity of secondary education* column, a "2" indicates that some large proportion of secondary qualified workers enter the labour force with occupationally specific skills. This code is assigned to countries with well developed apprenticeship programmes and/or school-based training in detailed occupations (Germany, Switzerland, Netherlands).

A "0" is assigned to countries in which very few students complete the formal educational system with specific vocational skills. These are countries where vocational programmes are either very small or in which the curriculum is predominantly of a general nature (Ireland, the USA, and Japan).

In the remaining countries (France, Israel, Italy, Sweden and Taiwan), large cohort proportions attend vocational tracks at the secondary level but the programmes are not very specific. For example, in the late 1980s in Israel, over 60 % of all twelfth graders in secondary vocational programmes were concentrated in 5 vocational subjects (CBS, 1988, p.626). Thus, vocational programs are defined at a general rather than specific level. We also assign Australia and Britain to this category. In both countries, most vocational qualification are now obtained in post-school apprenticeship and vocational courses rather than in schools. Their specificity is of an intermediate nature.

A "1", in the *National standardisation of education* column, indicates that irrespective of the school or region in which they were awarded, qualifications tend to represent the same skill level throughout the national space.

A "0" indicates that the qualifications attest to different skills in different school and/or regions.

Britain is an ambiguous case. On the one hand, general secondary qualifications (the CSE, GCSE) are highly standardised there. On the other hand however, vocational and post-secondary qualifications are very diverse and unstandardised in Britain. We decide to assign Britain a "0" on standardisation.

In Switzerland, there are considerable differences between the cantons in curricula and the structure of the educational systems. However, the vocational training system has a high degree of standardisation throughout the country and the maturity examinations follow national regulations. Furthermore, the Swiss chapter in the Shavit and Müller book (1997) employs data for German cantons were the educational system is more standardised than in the country as a whole.

Japan is assigned a 1 on standardisation because although there are large differences between schools in requirements and prestige, the quality of teachers, curriculum and school facilities are quite homogenous throughout the country.

Stratification of secondary education is coded as follows:

A "0" represents prevalence of comprehensive schools which may or may not practice curricular and/or ability-based tracking.

A "1" represents a prevalence of between-school tracking such that those on the academic route usually attend separate schools from those on the lower or vocational route.

Finally, a "2" represents an extreme form of stratification with very early differentiation among a plurality of programmes. Japan upper-secondary education is very stratified by "school quality" but this dimension is orthogonal to our educational classification.

The data reported in column 4 (*Percent with post-secondary qualifications*) are taken from the individual chapters (in Shavit and Müller, 1997). For nine of the thirteen countries (Australia, Britain, France, Ireland, Italy, Japan, the Netherlands, Sweden and Switzerland) the proportions reported by the authors are similar to those reported independently by the OECD (OECD, 1995, p.196-197; p.219).

For Israel, the high proportion (33.5 %) reported by Kraus, Shavit and Yaish (Shavit and Müller, 1997) is lower than the Central Bureau of Statistics reported proportion of 25-44 year olds with 13+ years of schooling (Israel Central Bureau of Statistics, 1993, Table 22.1). The latter is as high as 38 % but includes an unknown number of orthodox Jews who typically continue religious education, full or part-time, throughout their adult life and count it when asked to report on their educational attainment. We prefer the more conservative estimate reported in the volume's Israeli chapter (Shavit and Müller, 1997).

The estimate provided by Arum and Hout (Shavit and Müller, 1997) is lower than that reported by OECD (1995, p.196) for the USA, 34.9 %. Part of the difference between the two estimates is due to the fact that some of the cohorts studied by Arum and Hout had not completed post-secondary education at the time of interview. Another probably reason for the difference is the more inclusive definition of post-secondary education employed by OECD. We prefer the Arum and Hout's more conservative estimate of 25.7 % even though this attenuates the negative effect we find for Percent with Post-Secondary Education on the association between qualifications and occupational attainment. When we substitute the OECD value for the USA, the results were similar to those reported in tables 1.3.b, 1.4.a, 1.4.b and 1.5.a but the negative effects of percentage with post-secondary education were always larger.

The estimate provided in the chapter on Germany is about 15 % (in Shavit and Müller, 1997). This is much lower than the OECD estimates ranging between 22.4 and 26 %. The latter however, include post-secondary apprenticeship programmes which do not correspond to the definition of tertiary qualifications that we apply to other countries. We suspect that, for the same reason, the figure for Switzerland (22 %) is also too high. However, since it appears in both the Swiss chapter and the OECD publication, we kept it. Any lower value would accentuated the negative effect of this variable in the regression analyses which are presented below. Finally, the data for Taiwan were compared by Tsai to independent publications of the Taiwanese Ministry of Education (1995) and we trust that the two sources are consistent.

Table 1.1.a crosstabulates the countries by standardisation and stratification.

Table 1.1.a
Thirteen countries by level of standardisation, stratification and prevalence of specific vocational education

	Stratification		
Standardisation	Low	Medium	High
High	(1) IRL J S*	(2) F* I* IL* TAI*	(3) D** CH** NL**
Low	(4) AUS* GB* USA	(5)	(6)

Note: asterisks indicate the degree of occupational specificity of vocational education; two asterisks indicate a high level of occupational specificity; one asterisks indicates an intermediate level; no asterisks indicates low level.

Assuming our hypotheses to be true - but neglecting the cohort proportions of tertiary qualifications - the table anticipates in which countries we should expect weak or strong effects of education on occupational outcomes. According to their level of

standardisation and stratification we should expect the weakest effects in the countries in cell (4), the strongest effects in the countries in cell (3), and intermediate effects in the other countries - those in cell (1) should be closer to the bottom, and those in cell (2) closer to the top. The position of a country in the rank-order of effects of education on occupational outcomes should be additionally differentiated according to the number of asterisk assigned to a country.

3. DATA AND ANALYSIS

The country studies on which the present meta-analysis is based employ recent, large, and nationally representative datasets. Most studies employ data on cohorts of recent entrants into the labour force, men and women in their twenties and thirties. They capture the relationship of educational qualifications and labour market outcomes at the point in life when individuals move from education to their first employment. The main reason for this focus is the assumption that at the entry point to working life the relationship between qualifications and work position can be grasped in its purest form. Occupational positions in later stages of the career will depend on many other factors which, if not properly controlled, may disturb the effects of education[5].

The analysis pursued in the country studies consists of a common core and free-style components. The core includes regression analyses of occupational attainment at the first job held after the last qualification was obtained (or a proxy for such a job). In order to grasp occupational attainment in several facets, three kinds of analyses are performed:

- standard occupational attainment regression equations, where the dependent variable is the occupational prestige (or an equivalent scale),

- multinomial *Logit* equations predicting the odds of entering the labour force in different occupational classes,

- multinomial *Logit* equations estimating the odds of being employed, unemployed or not in the labour force.

The major independent variable in all these regressions is the highest educational qualification obtained, coded in the CASMIN educational schema (described below). The effect of education on occupational attainment is contrasted to factors representing respondents' socio-economic origins. Thus, the regressions also include several variables such as parental education and father's occupational prestige when respondents were in their teens. These components of the analysis are reported separately for men and women.

The freestyle components vary greatly from country to country, and deal with essential features of the school-to-work transition not captured by the common framework. Here, we focus on the common components of the analysis, referring the reader to the individual studies for the details of the country-specific analysis. In

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5 The way in which different education in different countries affects career progression would be an interesting subject for future research.

deciding on the elements of the common core, we hoped to reach a high degree of comparability between the individual studies. In reality, this could not be fully achieved in all instances.

In three of the country studies (Ireland, the Netherlands and Sweden) the authors (in Shavit and Müller, 1997) used a proxy measure for first job, and instead of measures for the first job they used measures for the current jobs of respondents early on in their careers. The Dutch study (in Shavit and Müller, 1997) employs a sample of individuals in their first ten years of worklife, the Swedish sample consists of individuals aged 25-34, and the Irish sample of individuals aged 24-35. In many cases, this will indeed be the first job, and in other cases it will be a job very similar to it. The Swedish and Dutch studies provide estimates for the potential distortions introduced by these proxy measures for first job which show that they are probably minor. In any case, they are very small when compared to the systematic variations among countries.

Differences also occur between the country-studies regarding the control variables used in the analysis. The studies on ethnically heterogeneous countries (USA, Israel, Australia, and Taiwan) include controls for race or ethnicity in order to purge the estimated effects of education from those which might be due to ethnic stratification. Differences among studies in the controls for social background do not substantially affect the estimated effects of education on first job because the effects of origins, net of education, are always very small or insignificant. Studies, included other controls as well such as age at entry into first job, demand for labour at the time, or ability. We inspected the data in detail and are convinced that none of these additional controls biases the estimated effects of qualifications on occupational outcomes in the early career or on current labour force participation and employment[6].

There are also differences among studies in the measures of occupational prestige or status. While most studies use the best available national prestige scales, Switzerland and Sweden use Treiman's International Occupational Prestige scale (1977), and Australia, France, Taiwan and the USA use scales of socio-economic status. It is known that the major difference between scales of prestige and of the socio-economic status of occupations concerns the values they assign to farmers. As a consequence the correlation between education and socio-economic status tends to be somewhat

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6 More specifically, the additional controls are as follows. The French study controls for year of entry to first job, but this variable has a rather weak effect. The study on Switzerland controls for demand for labour at year of entry, a variable which is only very weakly correlated with education. In neither case would these controls largely affect the estimates for the net effect of education. The study on Britain controls - in the linear regressions only - for school type and ability. In the models which we use for the comparative purposes (Model 4 of Tables 3.8 and 3.9 in the study on Britain), these variables have only weak direct effects on occupational prestige of first job. Therefore, their possible attenuation of the net effect of education can again be only very small. Three studies (Israel, Italy and Taiwan) control for age at entry to first job. Age at entry to first job may be correlated with the level of education and therefore attenuate the effect estimated for education. In Taiwan, the effect estimated for age is very small and statistically insignificant. It will therefore scarcely affect the estimate for education. The Israeli study includes both age and year of labour force entry, two variables which are positively correlated with one another. The effect of age is positive while the effect of year is negative. When both variables are excluded from the analysis, the effects of education on the occupational prestige of first job and on the log-odds of entry class change very little. A similar phenomenon holds for Italy as well.

higher than the correlation between education and occupational prestige. However, among the cohorts studied in this paper the proportion of respondents employed in agriculture is very small, and it is unlikely that the different measures of occupations produced significant differences in the effects of education.

Thus, while there are clear deviations from an ideal comparative design, we are confident that they do not distort or bias the conclusions of the comparative analyses which we report in this paper.

3.1. The dependent variables

In the interests of comparability, we adopt existing and well-known conceptualisations of our most important variables. As noted, occupation upon labour-force entry is measured on occupational prestige scales, or their equivalents, which are available for virtually all countries (see, e.g., Treiman, 1977). Each occupation is assigned a score which represents its social standing or prestige relative to other occupations.

In addition to occupational prestige scores, we measure occupation at labour-force entry by coding it into the familiar - Erikson-Goldthorpe-Portacarrero - *EGP* class schema (Erikson and Goldthorpe, 1992). Some of the contributors to the project employed the seven-class version of *EGP* reproduced in Table 1.2.a, while others, using smaller data sets, merged categories I and II, and IIIa and IIIb.

A third dependent variable is labour-force status, consisting of the three categories - employed, unemployed, and out of the labour force - and measured at the time of interview, rather than retrospectively for the time of labour force entry.

Table 1.2.a
The *EGP* class schema

Classes	Includes
I	Higher grade professionals and administrators, and officials in the public sector.
II	Lower grade professionals, higher grade technicians, lower grade administrators and officials, managers in small firms and services and supervisors of white-collar workers.
IIIa	Routine non-manual employees in administration and commerce.
IIIb	Routine non-manual workers in services.
IVabc	Small proprietors and artisans with or without employees, and self-employed farmers.
V+VI	Skilled workers, lower grade technicians and supervisors of manual workers.
VIIab	Unskilled workers including agricultural labourers.

3.2. The independent variable

Our definition of qualifications employs the CASMIN schema (Müller et al., 1989), and is based on two classification criteria: the hierarchical differentiation of general education and the differentiation between "general" and "vocationally-oriented" education. We employ a seven-category version of the schema as shown in Table 1.2.b.

Table 1.2.b
The CASMIN educational schema

Qualification	Description
1ab	This is the social minimum of education. Namely, the minimal level that individuals are expected to have obtained in a society. It generally corresponds to the level of compulsory education.
1c	Basic vocational training above and beyond compulsory schooling.
2a	All types of secondary school programs in which general intermediate schooling is combined by vocational training.
2b	Academic or general tracks at the secondary level.
2c	Full maturity certificates (e.g. the Abitur, Matriculation, Baccalauréat, A-levels).
3a	Lower-level tertiary degrees, generally of shorter duration and with a vocational orientation (e.g. technical college diplomas, social worker or non-university teaching certificates).
3b	The completion of a traditional, academically-oriented university education.

Several of the country studies (see, e.g., the Dutch and Swiss contributions in Shavit and Müller, 1997) compared the predictive efficiency of the CASMIN educational schema to a linear measure of number of school years completed and show a marked improvement in the fit associated with CASMIN[7]. There are two important non-linearities in the school-to-work association. First, vocational qualifications have consistent effects, relative to non-vocational qualifications of similar levels, on entering the skilled blue-collar, rather than the unskilled classes. Second, in many countries, higher education is valuable with respect to entering Classes I+II, but it is of less (in some cases, even negative) value with regard to placement in other classes.

The CASMIN schema is also useful because, with some adaptations, it is applicable to a wide variety of educational systems. And yet, when applying the schema to concrete

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7 For more details on the CASMIN educational classification and its advantages relative to years-of-schooling in comparative research, see Braun and Müller (1996).

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national contexts, some adaptations are necessary. In many countries, for example, including Israel, USA, Taiwan, Japan, Ireland and Sweden, category 1c either does not exist, or includes very few individuals[8]. Finally, in Japan there is a small category of secondary school graduates who attend post-secondary vocational courses. Ishida (in Shavit and Müller, 1997) labels this category 2d because it neither corresponds exactly to 2a nor to 3a. In order to avoid confusion, we have omitted this category in representations of Japan.

4. COMPARATIVE ANALYSIS

In this section, we analyse the results of the common components of the thirteen country studies. Some studies do not include all parts of the analysis - for example, the Swedish study does not include analysis on unemployment because the data-set used in Sweden does not distinguish between unemployment and not in the labour force - and consequently, the number of countries varies from one part of our analysis to another.

The comparative analysis does not purport to be exhaustive. The country studies are rich with statistical and contextual information and could feed numerous comparative analysis on such topics as the role of education in inter-generational mobility, gender differences therein, and in the school-to-work transition generally, on the role of vocational education in occupational placement, on ethnic and racial inequalities of educational and occupational opportunity, and much more. But this paper concentrates on evaluating the plausibility of the hypotheses listed earlier. We analyse the relationship between qualifications on the one hand, and occupational prestige of

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8 Additional adaptations are the following: in Taiwan, there is no distinction between general (2b) and full (2c) secondary education, and both are coded 2c. In Germany, category 2b is virtually empty and is collapsed with 2a. The CASMIN classification fits Japan least well: the major form of stratification is between schools, rather than between academic and vocational programmes, and the CASMIN schema is not suited to capture this form of differentiation; there is very little vocational secondary education; and, as in Taiwan, the distinction between 2b and 2c does not apply. Furthermore, there is an ambiguity with regard to the classification of vocational education. Ishida does not use a 2a category because the completion of vocational high school offers a high school certificate, a matriculation certificate, and some of the respondents were not asked the question on high school type which is necessary to identify those who had attended vocational high schools. Ishida distinguishes between respondents who completed secondary education without any additional education (2c), and those who completed secondary education but continued on to non-university post-secondary education (2d). Category 2d refers to a lower level of post-secondary education which includes technical training, whereas 3a refers to post-secondary, two-year junior colleges. In presenting the results of the Japanese case, we ignore category 2d as it does not correspond to any of our educational categories. Its effects, however on prestige and on the log-odds of entering Classes I+II and V+VI relative to Class VII (see the respective tables in the study by Ishida in Shavit and Müller, 1997) are very similar to the effects of Ishida's 3a category. The Italian contributors to the project, Schizzerotto and Cobalti, assigned category 2b to *istituti tecnici*, a higher level of vocational secondary education than the *istituti professionali* which are assigned to 2a. In Italy, therefore, category 2b refers to secondary vocational qualifications, in the same way as 2a, and not to general qualifications, as in other countries. Finally, in France, a large proportion (about 20 % in the most recent cohorts) do not complete compulsory education (1a), and an additional 5-10 % that do, but do not continue further in education (1b). The two categories often have distinct effects on occupational outcomes in France. Thus, rather than merge them into a single category (1ab) we prefer to define 1a (*Certificat d'études primaires*, now abolished or no diploma) as the social minimum of education in France, and recode 1b (*Brevet d'études du premier cycle - BEPC - or Brevet élémentaire*) to 2b. The application of the CASMIN schema to the educational categories of the other countries is straightforward and is discussed in detail in the respective country studies.

first job, class of labour force entry, labour force participation and unemployment on the other. In discussing the results comparatively, we concentrate on both the major common threads which emerge from the data and on striking national differences[9].

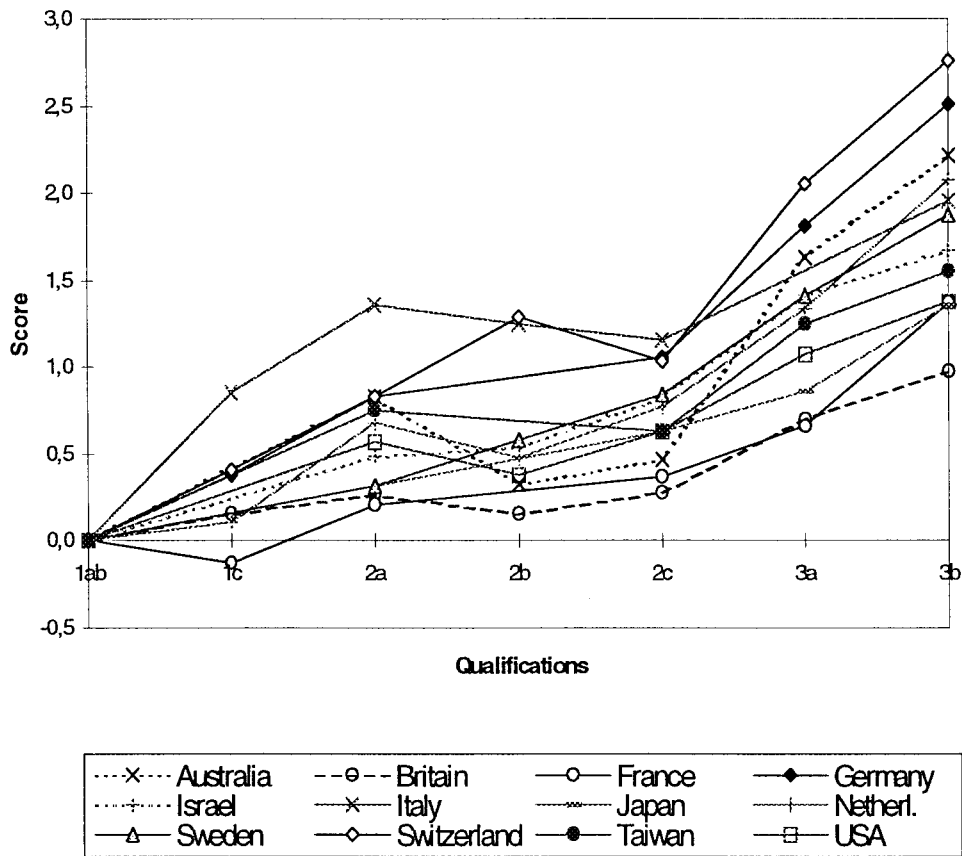## 4.1. Qualifications and occupational prestige

Figures 1.1.a and 1.1.b plot the effects of qualifications on standardised occupational scores for twelve countries[10]. For both men and women, the pattern of effects of educational qualifications on occupational prestige at first job is similar across countries. For both gender groups we see that in all countries, secondary qualifications provide access to more prestigious occupations than those at the elementary level. We should also note the familiar upward swing of the curves between secondary and tertiary qualifications (Featherman and Hauser, 1978; Kraus and Hodge, 1990). This reflects the fact that in all societies, the very prestigious occupations - the professions - are accessed through tertiary, and especially university, education.

Figure 1.1.a: OLS regression effects of qualifications on standardized occupational scores: men

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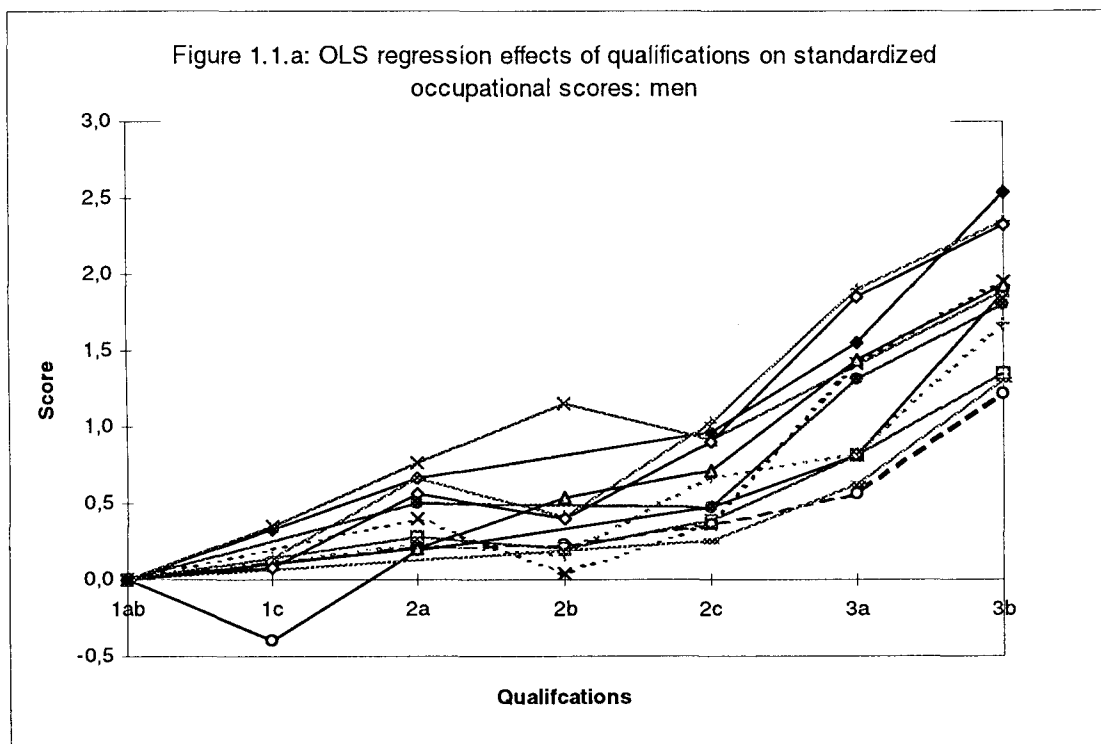
9 In their study on Israel, Kraus et al. (in Shavit and Müller, 1997) analyse data separately for Jewish men and women and for Arab men. The patterns of association between qualifications and occupational outcomes are very different for the three groups. Part of the difference is due to the interaction between ethnic discrimination and ethnic enclaves in the Israeli labour market. In the present analysis we only include data for Jews because we are not able to do justice to the important, but complex, issue of ethnic stratification in labour markets.

10 The means and standard deviations of prestige scales vary between countries. To adjust for these variations, we standardised all scales by dividing the coefficients by the national standard deviation of prestige. The figures plot the differences between the standardised coefficients of the various qualifications relative to qualification 1ab. Ireland is excluded from the comparative analysis because the Irish study does not include a separate analysis of occupational prestige for men and women.

Figure 1.1.b: OLS regression effects of qualifications on standardized occupational scores: women

Against the backdrop of this overall similarity in their pattern, there are interesting national variations in the magnitude of the effects of qualifications on occupational prestige. This is illustrated in Table 1.3.a which summarises the difference in standardised prestige between the highest and lowest qualifications. The countries are sorted by the size of the average of the male and female entries. The table indicates that the effect of qualifications on occupational prestige is nearly twice as large in Germany and Switzerland as in Britain, Japan and the USA. The other countries are located between these extremes. The Netherlands and Australia are close to the top and the remaining countries are within a small distance of one another.

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Table 1.3.a
**Differences between highest and lowest qualifications
in standardised occupations scores by gender**

Country	Women	Men	*Average*
Germany	2.51	2.53	*2.52*
Switzerland	2.76	2.33	*2.55*
Netherlands	2.07	2.35	*2.15*
Australia	2.21	1.96	*2.08*
Italy	1.88	1.89	*1.89*
Sweden	1.87	1.92	*1.89*
Israel	1.66	1.67	*1.67*
Taiwan	1.55	1.80	*1.67*
France	1.37	1.88	*1.63*
United States	1.37	1.35	*1.36*
Japan	1.36	1.30	*1.34*
Britain	0.97	1.21	*1.13*

Figure 1.1.c presents the education's effects found for men and women in Table 1.3.a in the form of a scatterplot. In most countries, the pattern of effects of education on occupational prestige is similar for men and women, albeit weaker for women than for men. But the more important finding (reiterated in Figure 1.1.c) is the relative location of the various countries with regard to the magnitude of education's effects. The extreme position of Germany and Switzerland at the top of the list of countries, and the position of Britain, Japan and the USA at the lower end are clear. This ranking at the extremes corresponds closely to the predictions we have derived from the institutional characteristics of the countries shown in Table 1.1.a. The location of the countries in the corners of the table corresponds to their location in the same corners of the scatterplot.

Figure 1.1.c: Scatterplot of effects of education on standardized prestige for men and women
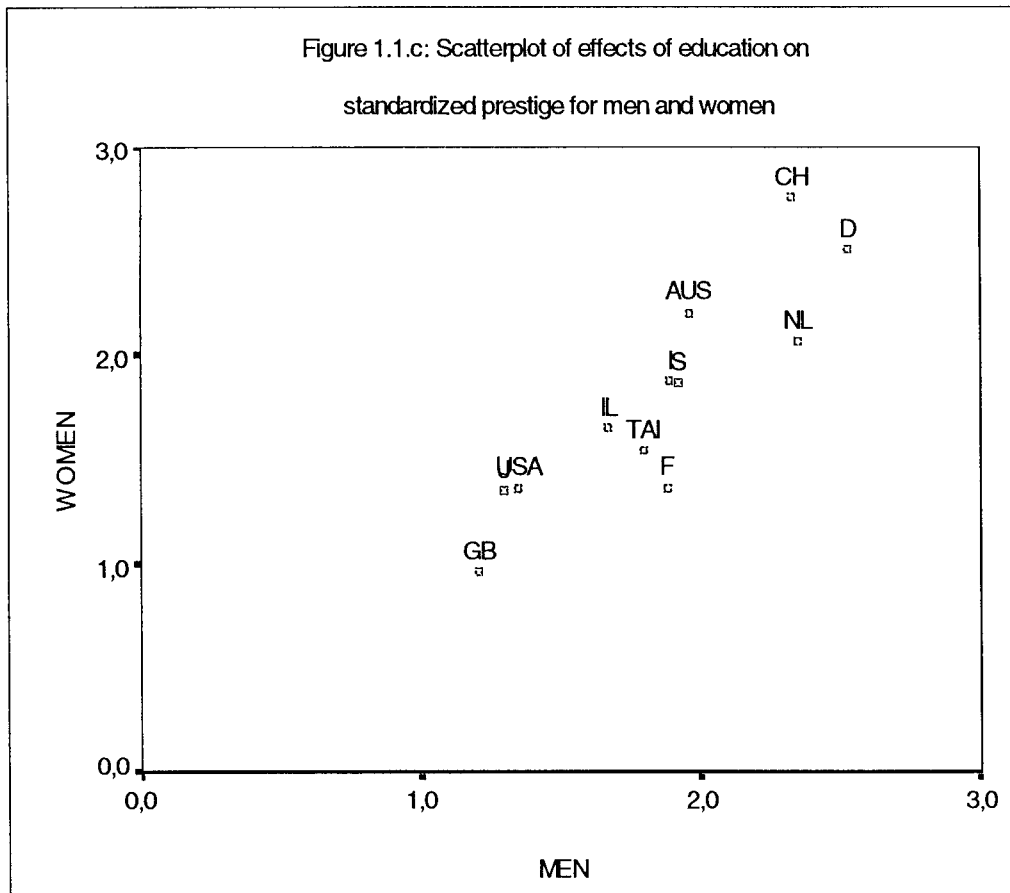
These country differences in the magnitude of the effect of qualifications on occupational prestige are due to differences among them in the societal level variables. This is illustrated both in Appendix Figure 1.A and Table 1.3.b. In Figure 1.A, we group the countries by their values on three institutional variables, and compute the group mean effect of each qualification on standardised prestige. The figure shows that the mean effects are generally stronger where the educational systems are more stratified, standardised, and have a high degree of vocational specificity. The differences are most pronounced between countries of different degrees of vocational specificity.

Table 1.3.b reports the standardised effects of four societal level variables on the magnitude of the effects of qualification on prestige[11]. The estimates are computed in linear regression models in which the dependent variables are the entries from Table 1.3.a for men and women.

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11 The correlations between the four societal variables (n = 13) are: (%)

	Post-Secondary Qualifications	Standardisation	Stratification
Standardisation	0.02		
Stratification	-.06	0.52	
Vocational Specificity	-.11	0.27	0.85

When computed for the set of twelve countries for which we estimate Table 1.3.b, the correlations are similar.

Table 1.3.b
**The effects of university qualifications on prestige regressed
on the institutional characteristics of countries**
(N=12, t-statistics in parentheses, standardised coefficients)

Institutional variables	1	2	3	4	5	6	7
Men							
Stratification	0.82				0.28	0.82	
	(4.48)				(0.98)	(3.41)	
Standardisation		0.49				0.00	0.19
		(1.77)				(0.02	(1.14)
% Post secondary			-0.34				
			(1.15)				
Specificity of vocational ed.				0.87	0.64		0.80
				(5.67)	(2.23)		(4.91)
Adjusted R²	*0.63*	*0.16*	*0.03*	*0.74*	*0.74*	*0.59*	*0.75*
Women							
Stratification	0.66				0.14	0.72	
	(2.78)				(0.34)	(2.32)	
Standardisation		0.32				-0.11	0.06
		(1.09)				(0.36)	(0.24)
% Post secondary			-0.26				
			(0.85)				
Specificity of vocational ed.				0.73	0.61		0.71
				(3.38)	(1.46)		(2.90)
Adjusted R²	*0.37*	*0.02*	*0.03*	*0.49*	*0.44*	*0.32*	*0.43*

Note: Ireland has been excluded

The independent variables are the four country characteristics shown in Table 1.1.a. In the first four columns of the table, we estimate simple regressions and find their effects to be similar for men and women. As hypothesised, the differences among the countries in the overall value of the effects of qualifications on occupational prestige at first job are positively related to the standardisation and stratification of the educational systems, and, negatively, to the cohort proportions obtaining post-secondary qualifications. The effects of stratification and vocational specificity are stronger than those of the two other characteristics. However, since standardisation and vocational specificity and standardisation and stratification are highly correlated across countries, we also try to estimate three multiple regressions involving pairs of these three independent variables[12]. For both men and women, the effects of stratification or vocational specificity are not affected when standardisation is controlled for, but the effects of standardisation, net of either of the two other characteristics are much reduced, and are even eliminated. The effects of stratification also declines markedly when vocational specificity is controlled for, but the effect of vocational specificity is only slightly weakened by controls for stratification. We conclude tentatively, that the association between qualifications and occupations is stronger where educational systems offer a high level of vocational specificity, are stratified, and where the proportion attending tertiary education is low. The effect of

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12 We dare not attempt three-variable regressions with the twelve cases at our disposal.

stratification appears to be mediated by the prevalence of vocationally-specific training, and it seems questionable as to whether standardisation has an effect which is independent of those of the other institutional characteristics considered.

4.2. Qualifications and entry-class

In the country studies, the relationship between qualifications and labour force entry class is analysed as a multinomial *Logit* which contrasts the log odds of entering the labour force in classes I, II, IIIa, IIIb, IV, and V+VI, with the odds of entering in the lowest class (i.e., VII). The independent variables in the model are educational qualifications controlling for various indicators of social origins, usually parental education and occupation. In this section, we focus on the effects of qualifications on selected class-of-entry contrasts. We ignore the analysis involving self-employment because in most cases, very few people enter the labour force directly into self-employment.

4.3. The overall effects of education on entry-class: contrasting the extreme classes

Figures 1.2.a and 1.2.b represent the effects of the various qualifications at the extremes of the class structure. This was done by plotting their effects, relative to category 1ab, on the log-odds ratio of entering the labour force in Classes I+II, rather than Class VII[13]. The end point of the curves on their right represent the effect of education on class placement measured at the extremes of the distribution of education. To facilitate visual inspection of the curves we separate them into two groups. Figure 1.2.a plots the eight countries for which the curves are more or less linear, while Figure 1.2.b includes five countries whose curves are less linear. Within each figure, the curves display substantial variation.

Beginning with the linear curves, the eight countries form two groups: Italy, Germany, Switzerland, and Taiwan - and the USA, Britain, Japan and Sweden. The overall effect of education on the log-odds ratio of entering the service classes is about twice as large in the first group than in the second. A second important difference between the curves of the two groups is in the effects of lower-level vocational education on the log-odds ratio. In the top group, lower vocational education (1c and/or 2a) enhances the odds of entering Classes I+II rather than the unskilled classes (VII). This is due, as we shall see later, to the benefit of these vocational qualifications for avoiding the unskilled class. The second group of countries (still in the "linear" group) shares a very low effect of lower vocational education.

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13 For nine countries, the analyses either included estimates for models which contrast the combined entry Class I+II with Class VII or such models were provided to us directly by the authors. However, for four countries we only had access to estimates from models in which Classes I and II were kept distinct. In such cases, the data shown in the figures are weighted means of the separate coefficients. The means are weighted by the relative sizes of the two classes.

Figure 1.2.a: Logit effects contrasting entry classes I+II (combined) and VII: men (linear curves)
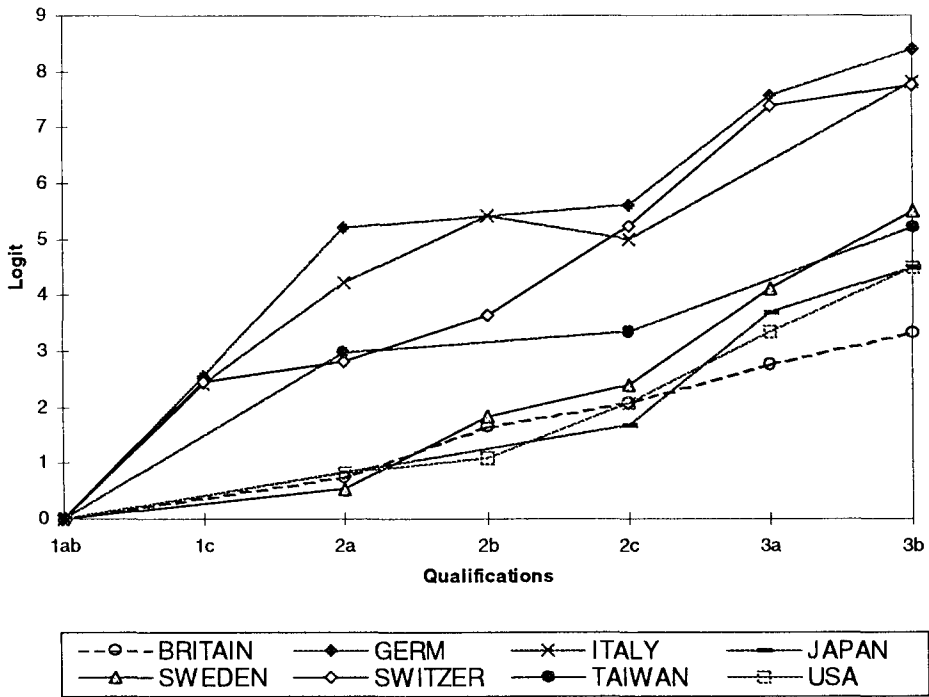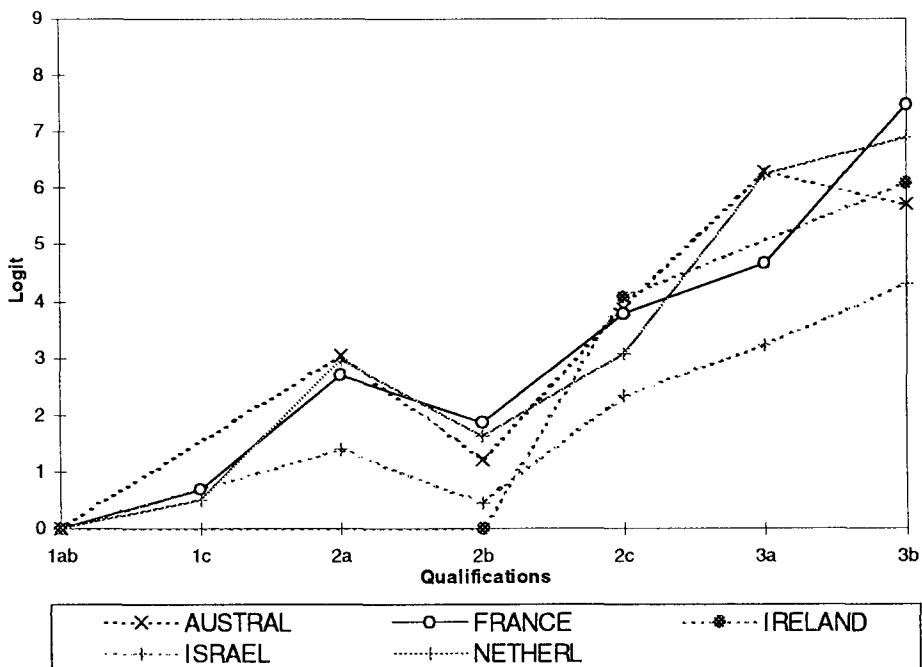
Legend: BRITAIN, GERM, ITALY, JAPAN, SWEDEN, SWITZER, TAIWAN, USA

Figure 1.2.b: Logit effects contrasting entry classes I+II (combined) and VII: men (non-linear curves)

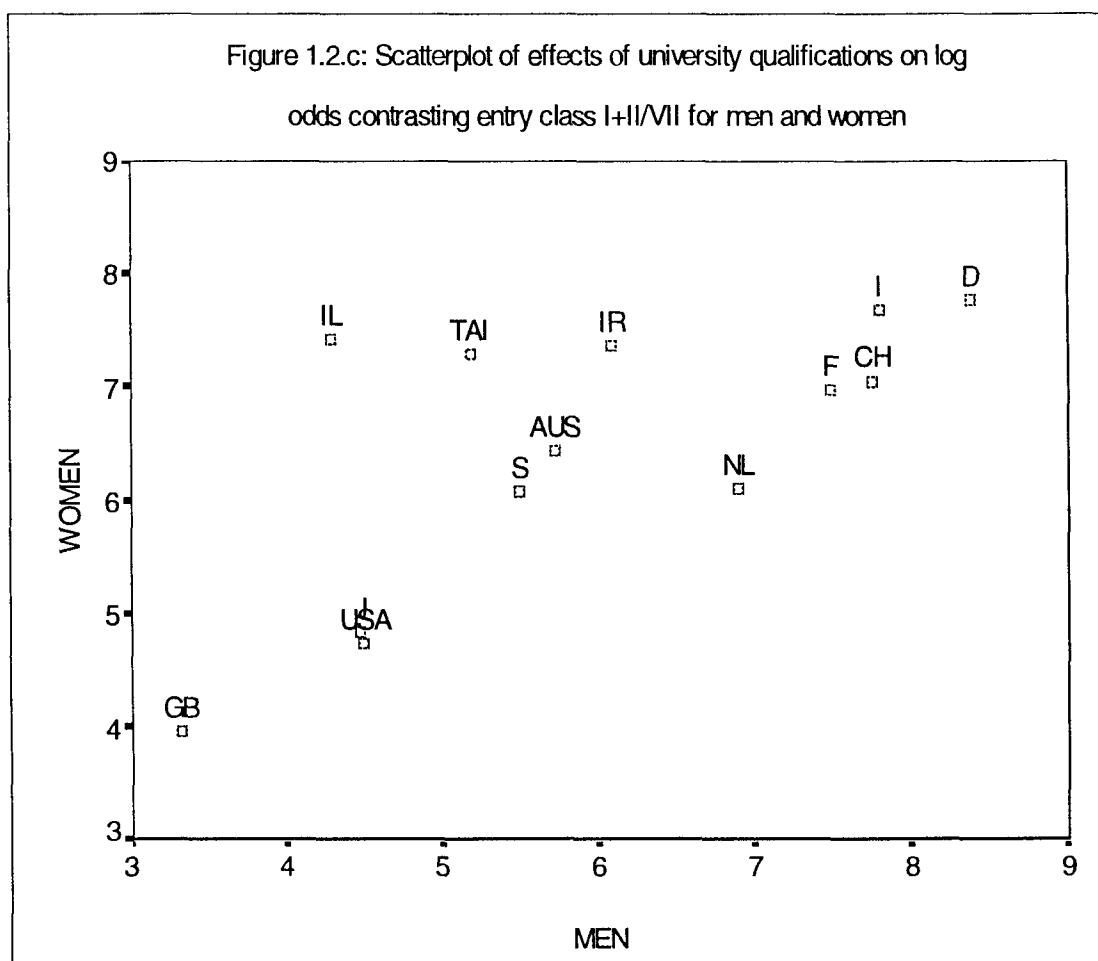Legend: AUSTRAL, FRANCE, IRELAND, ISRAEL, NETHERL

It is interesting to note that despite the large differences between the two groups in the effects of lower and secondary education, the slopes of the 2c-3b segments of the curves are generally similar. In other words, the effects of tertiary education on the log-odds ratio contrasting entry into the service classes and the unskilled classes, are more similar, in the two groups of countries, than the effects of elementary and secondary education. It would appear that the differences between the curves of the two groups are primarily due to the different role played by vocational secondary education in the occupational attainment processes. None of the countries in the second group has a sizeable apprenticeship or lower-level vocational programmes of the 1c type. Rather, vocational education in these countries is taught in separate programmes or tracks within schools.

We now turn to Figure 1.2.b and the five irregular curves. The Irish curve is irregular because Whelan and Breen (in Shavit and Müller, 1997) merged qualifications 2a and 2b and imposed an equality constraint on the effects of qualifications 1ab and the combined 2ab. Substantively, this means that in Ireland, these lower qualifications have little value at this segment of the class-allocation process. Thus, Ireland is very similar to the lower group from Figure 1.2.a. In the other four countries, the odds ratio of entering the service, rather than the unskilled class, is higher for graduates of secondary vocational education (2a) than for those with only secondary academic education (2b). But once again, we find that in those three countries where the effects of 2a are largest (Australia, France and the Netherlands), the overall effect of education is largest and is close to the magnitude to its effect in Germany, Switzerland and Italy, the top group in the previous figure.

In sum, there are systematic national differences in the pattern and magnitude of the association between men's educational qualifications and their log odds of entering the class structure at the top rather than the bottom. The differences are related to differences among them in the role played by vocational secondary education in class allocation. In countries with a prevalence of specific vocational secondary education, the overall association tends to be stronger than in those with less specific vocational education. The marginal effects of post-secondary education (by which we mean, the difference between the effects of post-secondary and full secondary education) are less variable between countries despite differences among them in the structure of post-secondary educational institutions.

Figure 1.2.c plots the overall effect of qualifications on the log-odds ratio of placement at the extreme classes (I+II vs. VII) for men and women. The countries with relatively standardised, stratified, and vocationally specific educational systems (Germany, Switzerland and the Netherlands) tend to show high effects, and those with relatively unstratified and less standardised (Britain, the USA and Japan) tend to appear at the bottom-left corner of the plot of the list. The intermediate countries, with regard to stratification, tend to occupy the central part of the figure. In Israel, a relatively standardised and stratified case, men's effects of qualification are lower than we would have expected, but women's effects are in the appropriate range. On the other hand, Ireland shows higher effects, especially for women, than we would have expected given the institutional characteristics of its educational system.

Figure 1.2.c: Scatterplot of effects of university qualifications on log odds contrasting entry class I+II/VII for men and women

To formalise the analysis, we regress the two sets of effects on the institutional variables and present the results in Table 1.4.a. The results for men corroborate yet again the hypothesis that the magnitude of the association between qualifications and entry class is positively related to stratification, standardisation and the specificity of vocational education, and negatively to the percentage with post-secondary qualifications. As we have done in the analysis of occupational prestige, we also estimate three multiple regressions. Similar to the results of the analysis for prestige, controlling for standardisation only slightly affects the estimates for the other institutional characteristics, but the "net" effects of standardisation are substantially reduced. From the equation including stratification and vocational specificity, we see that - contrary to the prestige analysis - stratification "explains away" vocational specificity.

Table 1.4.a
**The effects of university qualifications
on the log-odds contrasting entry classes I+II and VII,
regressed on the institutional characteristics of countries, for men**
(N=13, t-statistic in parentheses, standardised coefficients)

Institutional variables	1	2	3	4	5	6	7
Men							
Stratification	0.71				0.75	0.60	
	(3.32)				(1.77)	(2.87)	
Standardisation		0.51				0.20	0.38
		(1.99)				(0.76)	(1.62)
% Post secondary			-0.59				
			(2.45)				
Specificity of vocational ed.				0.59	-0.05		0.42
				(2.41)	(0.12)		(2.05)
Adjusted R²	*0.46*	*0.20*	*0.29*	*0.29*	*0.40*	*0.43*	*0.38*

Whereas for men, the unskilled blue-collar working-class is a common destination for unqualified workers, for women it is usually the class of routine non-manual employees in services (IIIb). In Table 1.4.b we repeat the regression analysis but define the dependent variable as the effect of qualification 3b on the log odds contrasting Classes I+II with IIIb[14]. The results are quite similar to the male pattern seen earlier. The only difference is that the "net" effect of vocational specificity is less affected by controlling for stratification.

Table 1.4.b
**The effects of university qualifications
on the log-odds contrasting entry classes I+II and IIIb,
regressed on the institutional characteristics of countries, for women**
(N=13, t-statistic in parentheses, standardised coefficients)

| Institutional variables	1	2	3	4	5	6	7
Stratification	0.61				0.28	0.59	
	(2.55)				(0.60)	(2.01)	
Standardisation		0.35				0.03	0.19
		(1.22)				(0.11)	(0.77)
% Post secondary			-0.27				
			(0.93)				
Specificity of vocational ed.				0.63	0.39		0.58
				(2.67)	(0.86)		(2.32)
Adjusted R²	*0.32*	*0.04*	*0.00*	*0.34*	*0.30*	*0.25*	*0.31*

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14 For the four countries, in which Classes IIIa and IIIb were merged, the dependent variable is the *Logit* contrasting I+II and IIIab. In unreported analysis in which we regressed, for women, the effects of qualifications on the same class contrast as for men (i.e., I+II/VII) we found that the gross effects were very similar to those of men, but that about half of the net effects were either close to zero or negative.

In sum, national differences in the overall effects of educational qualifications on the log-odds ratios contrasting entry to the labour force in the top or bottom occupational classes, are systematically related to the four institutional variables under consideration. The effects tend to be larger in societies where the educational systems are stratified and standardised, and where there is a prevalence of specific vocational education. The effects of the prevalence of tertiary education are, as expected, negative. As in the analysis for the prestige outcomes, the effects of standardisation appear to be smaller and more attenuated by controls than those of the other characteristics of the educational system.

4.4. Thresholds and hierarchies

So far we have focused on societal differences in the *strength* of the association between educational qualifications and entry class. Another interesting aspect of the problem concerns the *shape* of the association. Most research on occupational attainment, especially some American, Dutch and Israeli studies (see, e.g., Blau and Duncan, 1967; Kraus and Hodge, 1990) assume a *hierarchical* effect of education on occupational attainment. According to this model, any additional level of education enhances one's chances of getting ever better jobs in the job market. One cannot, according to this model, get *too much* education. In the context of a multinomial *Logit* model of entry class, this hypothesis would imply that qualifications have positive effects on the log-odds ratios contrasting each entry class against a lower one. We illustrate this hypothesis with data for Germany and Sweden. Figure 1.3.a plots the effects of qualifications on the *Logits* contrasting entry Classes I, II, IIIa and IIIb against VII for men and women in the two countries. In both countries, and this is generally true in all others, the effects of education are stronger on contrasts involving the service and the unskilled classes and are weaker on the contrasts between the lower non-manual classes and VII.

Figure 1.3a: Logit effects of qualifications, contrasting various classes with class VII, for men and women in Germany and Sweden
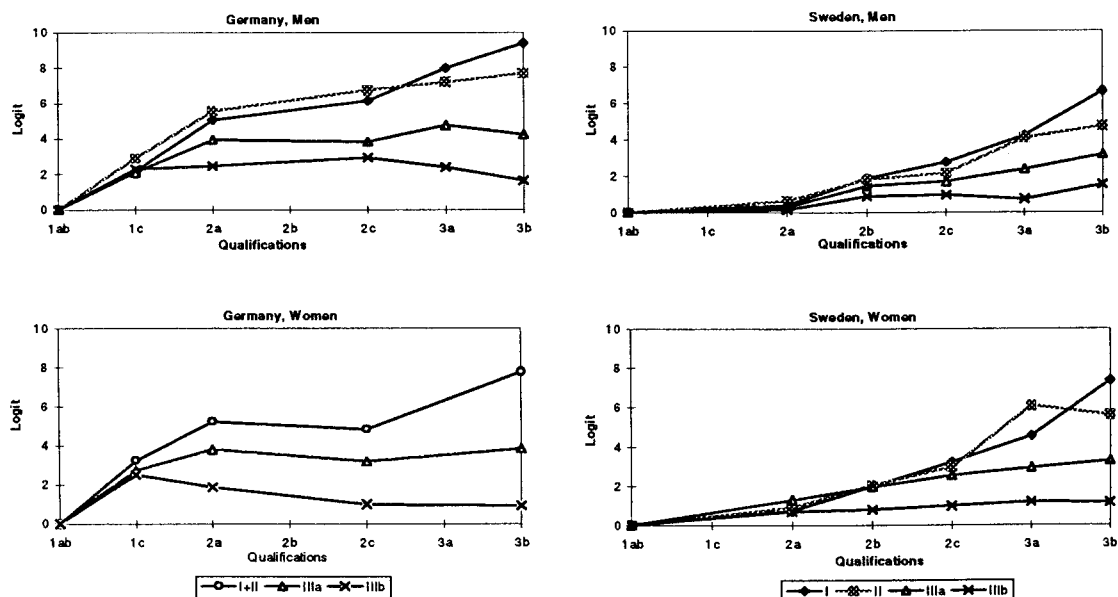
Focusing first on the figure for Swedish men, the hierarchical hypothesis seems to be born out by the data: all four curves tend to rise more or less monotonously. The effect of qualifications is strongest on the *Logit* of entering the class structure at the top, but also enhances the odds of entry in the lower non-manual classes. The hypothesis also applies to Swedish women, although university degrees (qualification 3b) do not enhance the odds of entering Class II above and beyond qualification 3a[15].

The hypothesis does not apply to Germany where education has linear effects on the odds of entering the professional and managerial class (I), but displays a *threshold pattern* with respect to other class contrasts: the odds of entering an occupational class are greatly enhanced by having obtained the necessary qualification, but are not further improved by any additional education. Entry into Class IIIa, for example, appears to be enhanced by qualifications 1c and 2a, whereas further education is of little additional value in this regard, and even has negative effects in some cases. The threshold pattern holds for both men and women in Germany.

These findings suggest the hypothesis that in countries with a low vocational specificity, employers evaluate job applicants for general characteristics rather than for specific skills (*sensu* Thurow, 1976). The more education, the greater the attractiveness of the worker. By contrast, where specific skills are the norm, employers seek workers with precisely the appropriate training for the job, and do not value excessive qualifications.

A test of this hypothesis would have involved an inspection of, for example, Figure 1.3.a for the remaining countries in the sample and an attempt to relate threshold and hierarchy patterns to vocational specificity. Unfortunately, we cannot test this hypothesis in data for other countries because the studies for those with *bona fide* low vocational specificity (the USA, Ireland and Japan) merged Classes I and II, and Classes IIIa and IIIb. In addition, Ireland and Japan are also countries for which several of the CASMIN educational categories are combined. Thus, rather than push the limits of the data, we opted to leave the true test of the hypothesis to future research.

4.5. The effect of vocational education on entering skilled Blue collar occupations

This part of the analysis focuses on the relationship between qualifications and the odds ratio of entering the labour force in a skilled or unskilled blue collar occupation. It has only been carried out for men because in many countries, there are few women in the skilled and unskilled working classes, and the *Logits* which contrast them often produce unstable estimates. We are concerned with three related questions: Does vocational education enhance the odds of employment in a skilled job? Do countries

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15 One possible reason for this could be that, in Sweden too, there are specific matches between particular qualifications and particular occupational positions. A large proportion of Class II positions for women in the Swedish labour market are as nurses and kindergarten and primary school teachers. These jobs require a 3a qualification and nothing else. Additional qualifications do not improve the chances of access to these jobs.

vary in the extent to which it does? Are national differences consistent with the institutional characteristics of their educational system?

For ease of visual inspection, we present the data for men in two figures. Figure 1.4.a includes countries where the effects are generally horizontal and Figure 1.4.b includes those with less regular patterns. We discuss the latter first. In all seven countries, vocational education at the secondary level enhances the odds of employment in skilled jobs relative to both the lowest educational category (1ab), and to general secondary qualifications (2b, 2c). Furthermore, in all cases except Switzerland, post-secondary, non-academic qualifications, which are often vocationally oriented, also have positive effects on the dependent *Logit*. In Switzerland, qualification 3a prepares men for higher technical occupations and lower-grade professions. It should be noted that it enhances the odds of entering Classes I+II, but is not very relevant to entry into the skilled blue-collar class[16]. Thus, in the group of countries depicted in Figure 1.4.b we find a clear effect of - mainly vocationally oriented - qualifications for obtaining a skilled, rather than an unskilled, working-class job.

Figure 1.4.a: Logit effects contrasting entry classes V+VI with VII: men, (flat curves)

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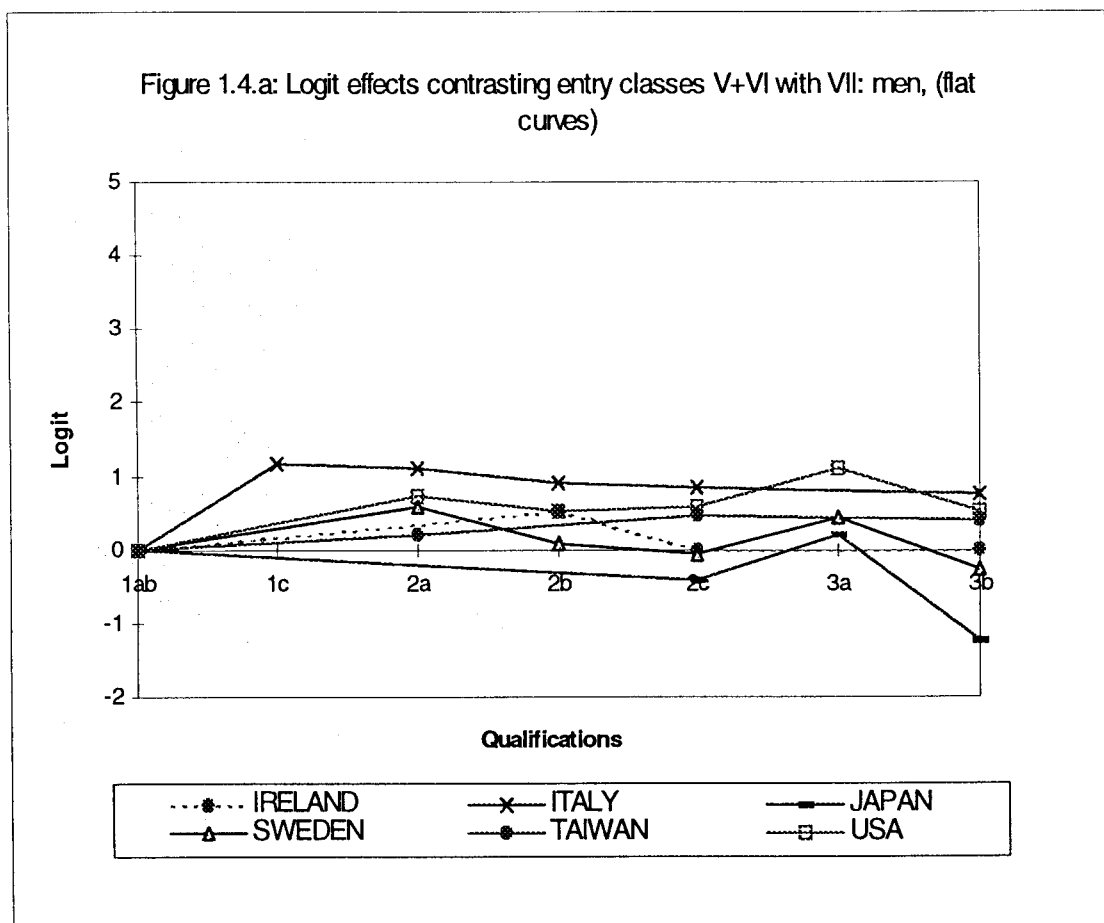
16 The effect of qualification 3b on the log-odds ratio cannot be reliably estimated for Switzerland.

Figure 1.4.b: Logit effects contrasting entry classes V+VI with VII: men, (peaking curves)
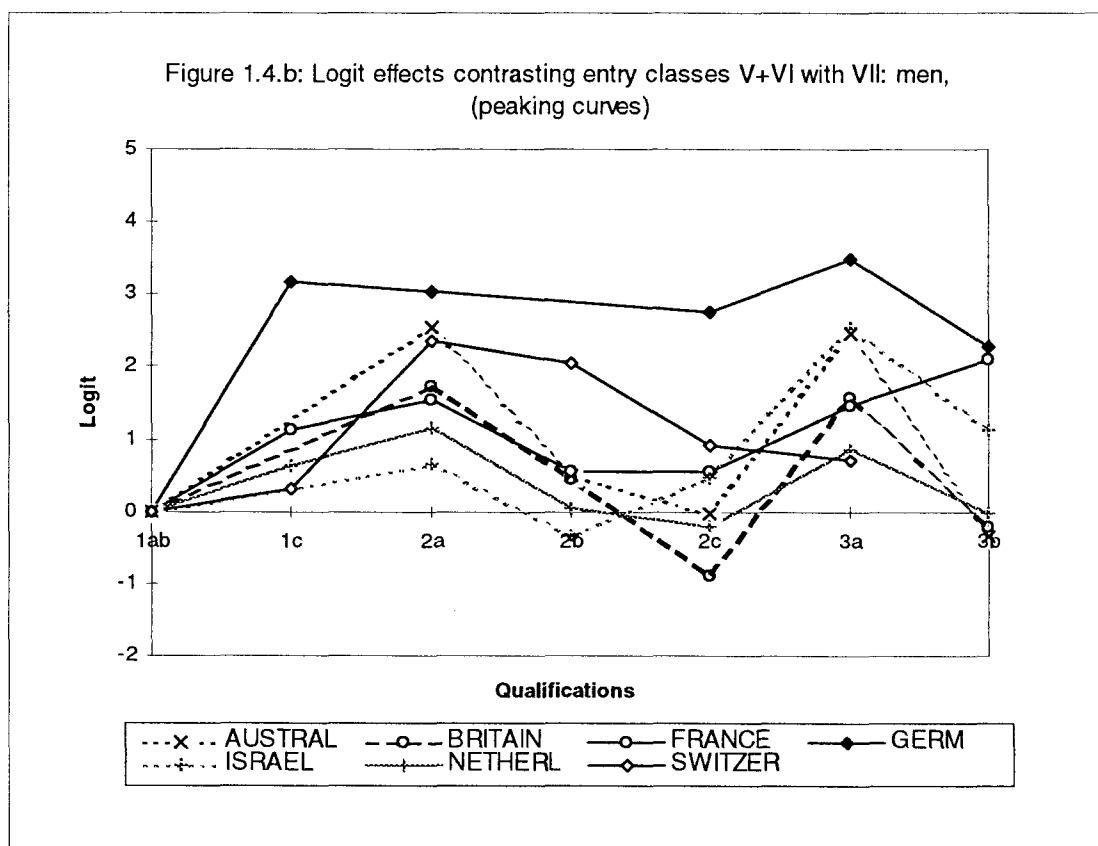
The German pattern deserves further comment. First, its effects are strongest. Specifically, there are marked differences between the least qualified and all other workers, because German workers with 1ab qualifications are effectively excluded from any skilled occupation. The curve shows that even qualification 2c enhances the odds of skilled employment. This reflects the fact that many people with 2c continue to obtain vocational qualifications which are not fully identified by the data.

In Figure 1.4.a, the pattern is different: all effects are very weak, and the shape of the curves is generally horizontal although, in the USA and Sweden there are minor peaks associated with qualification 3a. Only in Italy, does any qualification above the social minimum, whether vocational or general, appear to help individuals avoid unskilled occupations[18].

Summarising these results, we can detect a correspondence between the availability of vocationally specific training in national educational systems and the impact of qualifications in allocating workers to skilled, rather than unskilled, positions. All seven countries in Figure 1.4.b, together with Italy (the exception in Figure 1.4.a) have substantial elements of vocationally-specific training (see Table 1.1.a). There are exceptions, however, and we would have expected stronger effects for Sweden and Taiwan given the nature of their vocational education.

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[17] In the study on Ireland, Breen and Whelan (Shavit and Müller, 1997) find a remarkably strong effect of apprenticeships on the odds of becoming a skilled rather than an unskilled worker. However, apprenticeships are not common in Ireland and very few young people obtain them.

In Table 1.5.a, we regress the effect of qualification 2a (vocational secondary) on the institutional characteristics of the educational system: stratification, standardisation, percentage with post-secondary education, and the specificity of vocational education. The univariate equations indicate that in countries where education has a strong occupationally specific component, vocational secondary education enhances the odds of obtaining a job in the skilled working-class. In addition, the prevalence of tertiary education depresses these benefits. The gross effect of stratification is also substantial, however, when vocational specificity is controlled, it becomes negative due to multi-colinearity between these independent variables. The gross effect of standardisation is zero and also becomes negative when other variables are controlled for. Thus, whereas the effects of percentage with post-secondary and vocational specificity appear consistent, those of standardisation and stratification are unclear.

Table 1.5.a
The effects of vocational secondary qualifications on men's log-odds contrasting entry classes V+VI and VII, regressed on the institutional characteristics of countries
(N=12, t-statistics in parentheses, standardised coefficients)

Institutional variables	1	2	3	4	5	6	7
Stratification	0.41				-0.47	0.83	
	(1.43)				(1.08)	(2.72)	
Standardisation		- 0.19				-0.69	-0.51
		(0.62)				(2.27)	(2.39)
% Post secondary			-0.61				
			(2.43)				
Specificity of				0.65	1.05		0.84
vocational ed.				(2.73)	(2.39)		(3.96)
Adjusted R²	*0.09*	*-0.06*	*0.31*	*0.40*	*0.38*	*0.35*	*0.57*

Note: Ireland is excluded

4.6. Qualifications, labour force participation and unemployment

So far, we have discussed the relationship between education and the occupational prestige and class position of respondents' first job. However, restricting the analysis to employment seriously limits the account on the returns to education. This is particularly true for societies with large scale unemployment. Therefore, we now turn to a discussion of the consequences of education for labour market participation and unemployment[18]. While we cannot enter into a detailed study of the intricate relationship between education on the one hand, and both unemployment and labour force participation on the other, some basic findings are of interest.

The labour force participation rates of men are very high in all the countries studied. The single most important reason for the non-participation of young men is

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18 Several countries have been excluded from this analysis for various reasons. In Sweden, the database used does not include information on unemployment. In Italy, the coefficient estimates are generally insignificant and erratic, indicating instability. And in Taiwan there are also very few unemployed cases in the sample.

educational attendance. It tends to be most prevalent among persons with a full secondary education (2c) who still move back and forth between work and tertiary education (not shown), less common among graduates of secondary vocational education, fewer of whom continue into further or higher education, and in all countries, women's labour force participation is more optional in character than that of men (Gallie, 1995; Lindbeck, 1993). We assume that women's decision to participate involves weighing up the costs and benefits, and comparing expected employment income to the incurred costs of housekeeping. Education enhances women's participation rates because it enhances expected income from employment.

Figure 1.5.a plots the effect of each qualification, relative to the lowest, on women's log-odds ratio of being out of the labour force, rather than employed, at the time of interview. The original *Logit* equations control for social origins and, often, for such other variables as age, region of residence and ethnicity[19]. For all countries, the lines in the figure generally decline from the lowest to the highest level of education, reflecting the tendency of educated women to participate in the labour force at higher rates than less educated ones. In some countries, however, notably France and Italy, the curves are not linear. In particular, secondary vocational qualifications (2a in France and 2a and 2b in Italy) enhance labour force participation relative to both lower (1a and 1b) and higher qualifications (2c). But beside these exceptions, participation rates increase with the level of education.

Figure 1.5.a: Logit effects of qualifications on labour force participation: women
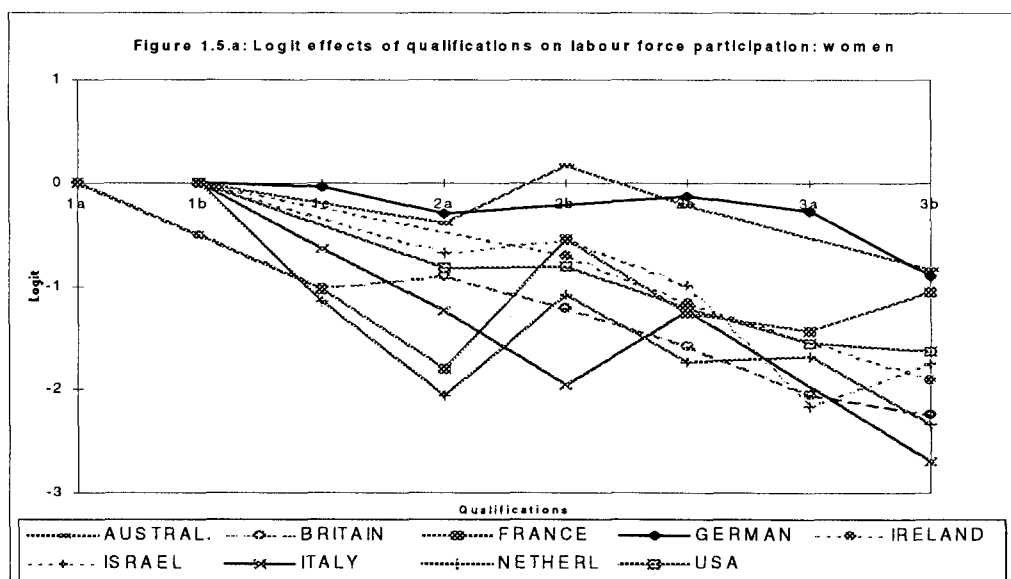
19 Whereas, occupation and class of first job were measured in a uniform manner across countries, there are large differences among them in the age to which the measure of labour-force participation and unemployment pertain. In some case (e.g., Britain, the USA, Ireland, France) these two variables were measured for very early stages of the career (typically for the twenties or early thirties), whereas in others (e.g., Germany, Israel, Italy) they were measured for later in the life course (typically the thirties and forties). Thus, we should expect to find considerable noise and random variation between countries in the relationship between qualifications and labour-force participation and unemployment, and we consequently should not over-interpret differences between countries.

Figure 1.5.b: Logit effects of qualifications on unemployment: men

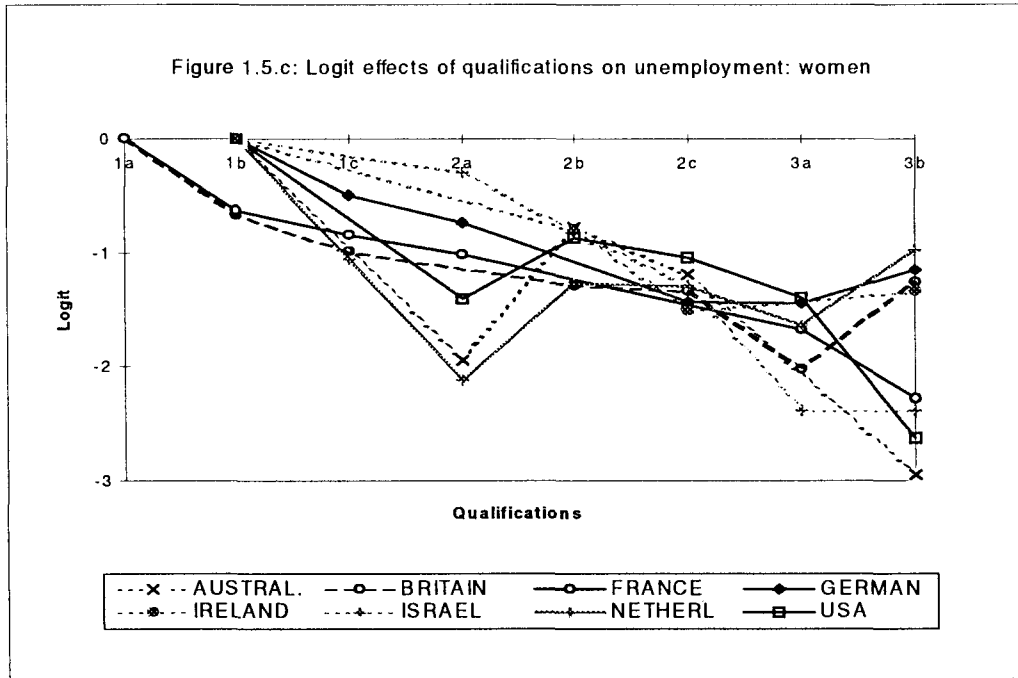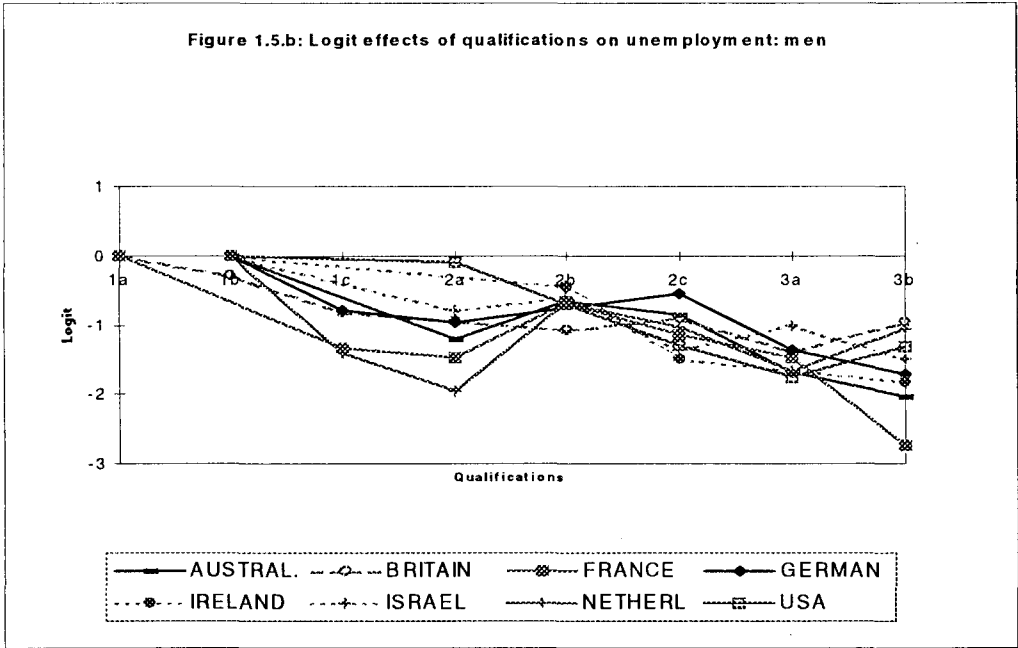Figure 1.5.c: Logit effects of qualifications on unemployment: women

Figure 1.5.b and Figure 1.5.c plot the *Logit* effects of qualifications on men's and women's odds of unemployment. The most general finding is that in all countries represented in these figures, and for both sexes, education tends to reduce the risk of unemployment, and tertiary education is associated with much lower odds of unemployment than the very lowest qualifications. However, as before, the effects of education are not always linear. In several countries, the risk of unemployment is lower for those with vocational qualifications than among those with general education of comparable or even higher levels. Among men, the advantages of

vocational qualifications appear in all countries with high or intermediate levels of specific vocational secondary education: Australia, Britain, France, Germany, the Netherlands and Israel. Thus, although academic tracks are more demanding than the vocational programmes, they are associated with higher risks of unemployment. In the USA and Ireland, the two countries in our set of nations with a predominantly academic orientation at the secondary level, general secondary qualifications should not constitute a handicap relative to vocational qualifications. We suspect that employers in these two countries do not expect job applicants to come with ready-made skills. Rather, they are evaluated on the basis of their relative success in a one-dimensional educational hierarchy. A complete secondary education (2c) is considered a valuable credential even without tertiary qualifications. The findings for Ireland and the USA are consistent with these expectations: the effects of secondary education, on the log-odds ratio of unemployment, are more linear than in the other six countries.

For women, the effects are, in general, similar to those of men, although they tend to be more linear. In particular, in fewer countries (Australia, the Netherlands, and - in contrast to men - the USA)[20] vocational qualifications reduce women's odds of unemployment relative to general qualifications of similar levels. Thus, women with general qualifications appear to be in a better competitive position relative to those with vocational qualifications in female labour markets[21].

5. CONCLUSION

The single most important conclusion of this study is that the effects of education in the occupational attainment process and its impact on employment chances in the labour force, are indeed systematically conditioned by the respective institutional contexts. Both the magnitude and the shape of the effects vary between countries and this variation is due, to a large extent, to differences in the social organisation of education. In this section, we summarise our findings by relating them to the main hypotheses of the study. We then highlight several implications of the results, and conclude by suggesting directions for further comparative research on the institutional context of the stratification process.

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20 In their study on the USA, Arum and Hout (Shavit and Müller, 1997) show that this is particularly due to the relatively good stake that women with vocational training in business and commerce have in the competition for service-class and routine non-manual jobs.

21 We assume that education is an asset in the competition for jobs, and that it therefore reduces the risks of (involuntary) unemployment. However, the relationship between education and employment also involves considerations regarding reservation wages' (Lindbeck 1993): some people, especially among the more educated, may prefer unemployment rather than accept inadequate jobs, also because accepting a low-paying job may damage their prospects of obtaining better jobs in the future. The "reservation wage" argument has two implications for the evaluation of our findings. First, we suspect that the negative effect of higher education on the involuntary component of unemployment is even larger than that seen in the data because voluntary unemployment is more common among the highly educated. Second, some of the apparent advantage of vocational relative to academic education may reflect reservation wage considerations among the latter. Namely, those with academic qualifications may be more likely to wait for the right job than vocational graduates.

The *null hypothesis*, which derives from both the neo-institutionalist and industrialisation perspectives[22], suggested little difference between industrialised countries in the magnitude and patterns of association between educational qualifications and labour force outcomes. The data reveal commonalities but also interesting variations.

The commonalities are:

- For both men and women educational qualifications enhance the attainment of prestigious occupations.

- The marginal returns to education at the tertiary level are higher than returns at the lower levels of education.

- Educational qualifications are important determinants of whether one enters the service class or the unskilled working classes, but much less decisive for placement among the intermediate classes.

- In most countries, the odds of becoming a skilled rather than an unskilled worker are determined by whether one has a *vocational* qualification, rather than by the *level* of qualification.

- In all countries the odds of labour-force participation are related to educational attainment, more so for women than for men.

- In all countries, and for both men and women, the risks of unemployment are attenuated by education, especially by tertiary qualifications.

The most *striking differences* between countries are the following:

- The *magnitude* of the effects of qualifications on occupational outcomes vary greatly. When summarising the prestige regressions, we have seen that although the pattern of effects are similar for most countries, in Germany, the Netherlands, and Switzerland, the overall effect is twice as large as in Britain, Japan or the USA. National differences in the effects of qualifications on entry class are even more striking. For example, in Germany, Switzerland and Italy, university graduates are about 2 000 times as likely as the least qualified, to enter the service class rather than the unskilled working class. In the USA and Israel, the comparable odds ratio (for men) is less than 90, and in Britain it is less than 30.

- In some countries, vocational education enhances the odds of becoming a skilled, rather than an unskilled worker, while in others it is of little value when compared to academic education. For example in Germany, Switzerland, Israel or Australia, the odds of becoming a skilled rather than an unskilled worker are ten to thirty times greater for workers with vocational qualifications (2a or 3a) than for those with only general ones. By contrast, in Britain, Sweden and Ireland, the ratio is only two to four times greater.

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22 We should add that the analysis in this paper is not primarily designed to test the industrialisation hypothesis for the simple reason that most of the countries included in the analysis have all attained a high level of industrialisation. What we can show, however, is that in this set of highly industrialised countries, some differ quite substantially with respect to the association between education and labour market outcomes. Furthermore, the systematic relationship of the strength of the association with the institutional characteristics does not disappear if we control - in so far as this is possible - industrialisation level in our analyses. In analyses not reported here, we have added a measure of industrialisation level (in the manner proposed by Erikson and Goldthorpe, 1992, p.383-84) to the regression equations reported in Tables 1.3-1.5. The results remain essentially unchanged.

Thus, we find considerable similarity alongside considerable variation between countries in the pattern of association between education and labour force outcomes. Does this confirm or challenge the null hypothesis? The similarities mainly relate to the fact that education affects occupational allocation and is particularly crucial for access to the professions and other service-class jobs. The differences relate to substantial variation in the *magnitude* and to the *shape* of education's effects. The latter is certainly the more relevant aspect of the issue and constitutes a serious challenge to the hypothesis of basic similarities.

The null hypothesis is challenged not just by the substantial variation in pattern and magnitude, which we found, but also by their systematic relationship with the institutional characteristics, as hypothesised.

Stratification, standardisation, the occupational specificity of vocational education, and the relative size of the tertiary educational sector - taken as institutional characteristics of educational systems - are clearly related to the extent to which educational qualifications affect all but one of the occupational outcomes in the set of nations included in this study. The exception is that standardisation does not affect the association between qualifications and the odds of entering the skilled working-class.

The institutional variables also have substantial "net" effects in most analyses except the following: the effect of standardisation vanishes if either stratification or vocational specificity is controlled, and, in the analysis of access to the skilled working class it even becomes negative. In that analysis, vocational specificity is dominant, and net of its effect, the effect of stratification is negative, due to the high multi-colinearities among these variables. Another, exception is that for men, the net effect of vocational specificity vanishes (when stratification is controlled) in the contrast between the service class and the unskilled working-class. This is surprising, since the case by case analysis reveals that it is intermediate vocational qualifications that play a major role in producing variation across countries. This apparent inconsistency could also be due to the large multi-colinearity among the institutional variables. The data are, however, also consistent with the following substantive interpretation: vocational specificity directly conditions the effect of vocational qualifications on the odds of entering the skilled, rather than the unskilled, working class, but its effect on the odds of entering the upper non-manual classes is indirect, via the stratification of the system[23].

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23 The conclusions about the relative explanatory power of stratification and vocational specificity are indeterminate because of the multicollinearity between them. In unreported analyses, we estimated the regressions with two alternative definitions of the stratification and vocational specificity variables. First, we constructed an additive index of the two. The estimated effect of the index was slightly higher than the separate effects of its two components, but the effects of the other variable in the equations (standardisation) did not change substantially. As a second alternative, we created a dummy variable indicating those countries in which the value for vocational specificity differs from the value for stratification. This applies to Australia, Great Britain and Sweden, which are low in stratification, but intermediate in vocational specificity. Comparing these countries to those which are low in both stratification and vocational specificity (Ireland, Japan and US), we find systematically stronger effects of education in the former concerning two occupational outcomes: occupational prestige of first job and access to the skilled rather than the unskilled working class. Thus even, if we limit the analysis to countries with much less variation on stratification and vocational specificity (all low in stratification and either low or intermediate in vocational specificity), we find systematic effects of vocational specificity. The results of these analyses

These findings beg a discerning evaluation of the hypotheses which have guided this comparative analysis.

Hypothesis 1 stated that the strength of association between qualifications, on the one hand, and occupational status and class position, on the other, is positively related to the standardisation of the educational system. There is only limited and uncertain support for this hypothesis, since in none of our regressions do we find a positive effect for standardisation when either of the other institutional characteristics is controlled. It is more likely that the positive bivariate effects found for standardisation are spurious. Indeed, among the countries included in our study, most of those with a highly standardised educational system also have educational systems with an intermediate or high level of stratification and vocational specificity.

One possible reason for the weak effects of standardisation may simply be due to the fact that we have only three countries with a low value on this variable. It may also be because, in several countries where the educational systems exhibit standardised curricular requirements, teaching standards, and examinations, there are still large, often informal, variations among various segments of the system. For example, in Japan, the system is nominally centralised and highly standardised but there are differences in implementation between private and public schools. In Israel, despite the highly centralised control of the educational system, there are large differences between Arab, Jewish, religious and secular schools in curricula, teaching practices and accreditation procedures. Similarly, in Italy, regional differences may render the system less standardised than its centralised control intended it to be. It would appear then, that different educational systems introduce diversity through different backdoors, and that the concept of standardisation is less useful than was initially imagined.

Hypothesis 2, relating to the stratification of educational systems, is clearly corroborated when we consider the full range of occupational outcomes. That is, when we study how education affects the placement of individuals on the differentiated ladder of occupational prestige, or how it influences the chances of access to the most advantageous, as opposed to the most disadvantaged class-positions. Even net of other institutional characteristics stratification enhances the magnitude of education's effects on both prestige of first job and entry into the service class. However, when it comes to the relevance of education for obtaining a skilled, rather than an unskilled, working class position, the crucial factor appears to be the extent of vocational specificity of the educational system. The effects of standardisation and stratification are less clear here.

According to hypothesis 3, vocational specificity strengthens the association between qualifications and labour market outcomes, and, in particular, where vocational specificity is high, vocational education enhances the odds of entering the labour force in a skilled blue collar occupation rather than an unskilled one. The results are consistent with these expectations. The effects of vocational specificity are strong for all outcomes and, in general, the net effects are less reduced by controls than those of

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confirm the findings reported so far. Although we cannot precisely separate the effects of either of these variables, the results show that stratification and vocational specificity, taken together, strongly influence the effects of education on occupational outcomes in the early career.

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any other characteristics. In most of the countries compared in Figures 1.4.a and 1.4.b, vocational qualifications do indeed improve the odds of employment in a skilled, rather than unskilled, working class job, and, in Table 1.5.a, we find that the extent to which this is the case, depends systematically on the occupational specificity of vocational education. We also find that in countries, that do not have well developed institutions of specific vocational training, not only do vocational qualifications matter less (which is not surprising), but also there is no educational alternative that clearly enhances access to a skilled, rather than an unskilled, working class position. It is only in the countries with distinct vocational qualifications at the secondary level (see Figure 1.4.b) that some other qualifications (often of a tertiary kind) also enhance the chances of obtaining a skilled worker's job. The two sets of countries thus appear to differ in a more general way. In the countries lacking institutions of specific vocational training, the skilled and unskilled working classes are generally much less distinct by education than those with a marked vocational component in their educational systems.

Hypothesis 4 assumes that the effects of educational qualifications on occupational outcomes are inversely related to the cohort proportions attaining post-secondary qualifications. The hypothesis is confirmed in all univariate equations in which it was tested. The larger the national proportion with tertiary education, the weaker the effects of qualifications on occupational prestige, on the log odds of entering the service class, and the weaker the effects of vocational education on the odds of entering the skilled working class. Thus, educational qualifications would seem to play a less important role in labour allocation in countries with a large sector of tertiary education.

In addition to these generally positive conclusions with regard to our institutional hypotheses, the results suggest some additional insights.
First, in our set of countries, stratification and vocational specificity are highly correlated. When school systems offer specific programmes, they tend to group students in distinct tracks. The more specific the training, the earlier the differentiation into track, and the higher the barriers to inter-track mobility. The literature on tracking has shown that stratification weakens equality of educational and occupational opportunity because, typically, lower-class students are placed in lower tracks which in turn deliver them to the least privileged classes (see, e.g., Shavit 1990b). However, our findings suggest that stratification can also perform a positive role: when stratified systems provide occupationally specific vocational training, the credentials it confers are valuable and can enhance the occupational opportunities of students, in particular, by reducing the risk of dropping to the unskilled working-class. In such systems, moreover, very few people tend to remain without a marketable qualification. Another aspect of the matter, however, is that in these cases - as, for example, in Germany - the group that remains without qualifications, although small, is likely to be concentrated in the unskilled working-class and to encounter strong barriers to occupational advancement.

Secondly, in addition to the effects of vocational specificity on access to the skilled blue collar jobs, it plays an important role for entry to the service class. We have seen that national differences in the effects of education on access to the service class is mainly due to differences among them in the structure of secondary education. Most

of the countries with strong effects of education on access to the service class also have differentiated systems of secondary education. In most of these cases, secondary *vocational* qualifications improve the odds of entry into the service class. Most of the other countries (notably Britain, Japan, Sweden and the USA) have less differentiated systems of secondary education which do little to enhance the odds of entering a service-class job[24].

Thirdly, in our set of nations, three represent the highest level of occupational specificity of vocational education: Germany, the Netherlands and Switzerland. All three are marked by very large proportions of students who obtain vocationally oriented qualifications at the secondary level. In all three countries, training is offered in hundreds of specific occupations. There is, however, a difference among them: in Germany and Switzerland, training is mainly organised according to the dual system of apprenticeships, whereas in the Netherlands, most of the training takes place in schools, and apprenticeships are less common. Upon closer inspection of the data, we find that in the Netherlands, elementary or secondary vocational qualifications (1c and 2a) enhance the odds of obtaining a skilled rather than an unskilled, working-class job much less than in Germany and Switzerland. This is mainly due to the fact that in the Netherlands even workers with only the social minimum of education (1ab qualifications) have relatively good chances of obtaining skilled jobs. The finding is crucial, since it could imply that it is not the occupational specialisation of the training that produces strong effects of vocational education, but the specific institutional *form* of the apprenticeship system in Germany and Switzerland (and in Austria, as known from other studies; see, e.g., Haller et *al.*, 1985). The Dutch case thus begs further scrutiny: what then, are the institutional or other mechanisms operating in the Netherlands that limit the competitive advantage of vocationally qualified workers over those with no qualifications?

Fourth, the analyses of occupational prestige and of class outcomes produce broadly similar results concerning the relative effects of the educational categories in the countries studied. They also show similar patterns with regard to the effects of the institutional variables. And yet, the analysis of class as an outcome enabled us to reveal interesting non-linearities in the effects of education on occupational outcomes. As noted, vocational education plays an interesting and non-linear role in the occupational attainment process. When a linear model is applied, one cannot detect the advantages associated with vocational education, and is tempted to conclude that this is simply another form of low educational attainment. Education matters differently for different outcomes, and different types of education are relevant for

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24 Ireland and Israel are perhaps the most marked exceptions. In Ireland, the system of secondary education has a very low degree of differentiation, but we find a very strong contrast in the odds of obtaining a service class position between those with an intermediate and those with a full secondary education. It may be that the low degree of differentiation is compensated by the very strong standardisation of curricula and examination procedures. In Israel, we find a differentiated secondary school system, weak effects of education on Jewish men's odds of entering the service class, but stronger effects on the odds of women and of non-Jewish men. We suspect that in Israel's ethnically stratified occupational structure, the weak effects found for Jewish men reflects a floor effect on their occupational attainment. In other words, the odds that they would enter the service classes are relatively high even for those without tertiary education. Arab men have a greater risk of entering the unskilled working class and, indeed, the effects of education on their class placement are much stronger (see the chapter on Israel in Shavit and Müller, 1997).

different kinds of outcomes in the class structure. Furthermore, we have suggested that in some countries, qualifications exert a threshold pattern of effects on occupational outcomes. Namely, in some countries, tertiary education does not enhance the odds of placement among the intermediate classes. This is in contrast to countries where "the more the better" principle applies.

Which way To work?

We have pursued the comparative study of the relevance of education for first jobs both from a case-oriented and a variable-oriented perspective. In doing so, we have attempted to be sensitive to national context and yet to analyse a large number of countries. Thirteen countries represent perhaps the limit of what can be achieved in such an endeavour. And this was only possible because a network of colleagues and friends were willing to cooperate and to adopt common standards of analysis. Such a study cannot replace a project in which an even higher comparative standard can be achieved through the integrated analysis of individual data from several countries, but such studies have to be limited to a smaller number. For our own part, using a larger set of countries, we were able to draw a crude map whose contours are the institutional dimensions we have discussed. We were also able to place the various groups of countries in distinct regions of the map. Such a map should prove useful for future studies, who might want to add to it additional countries, and enable researchers to gain perspective when focusing on a limited number of cases, or even a single case. One can argue, for example, that Ishida's (1993) finding that Japan, the USA and Britain display similar patterns of association between education and occupation is better understood in light of the fact that the three countries occupy a similar location on such a map.

Such an approach has, needless to say, certain limitations. While focusing on the institutional characteristics of educational systems, we ignored many other factors of potential relevance, notably those related to employers, the workplace, and professional and other work organisations and their role in shaping the effects of education on the early work life of individuals. It is to be hoped that future research should answer the challenge thrown down by Kerckhoff (1995), and Hannan et al., (1996), and extend analysis in that direction.

Some of the chapters in Shavit and Müller (1997) consider the roles of additional institutional characteristics of both schools and the workplace in their countries. For example, the Japanese chapters discuss the role of social networks among alumni as instruments in job-search and placement, and the role of schools in selecting workers for firms. The Israeli contribution refers to the role of vocational training in the course of military service. The French chapter is rich with information on the legal educational requirements of occupations, on national employment policies, and on the institution of *cadres* - a select stratum of professionals and administrators - within French firms. Our attempt at a comparative analysis could not take these diverse institutional factors into account. We refer the reader to the, often fascinating, discussions in the country studies.

Another serious limitation of our study derives from choosing first job as the point in career for which we study occupational outcomes of education. It is notoriously

difficult to measure first job in a comparable way. Countries differ in the prevalence of moves between education and employment in the early work life, and in the extent to which first job sets the course for later occupational attainment (Erikson and Goldthorpe, 1992). In addition, education probably has different effects on occupational outcomes in later stages of the career. Thus, we consider that this project is but a beginning towards a better understanding of how processes of stratification are embedded within particular institutional contexts.
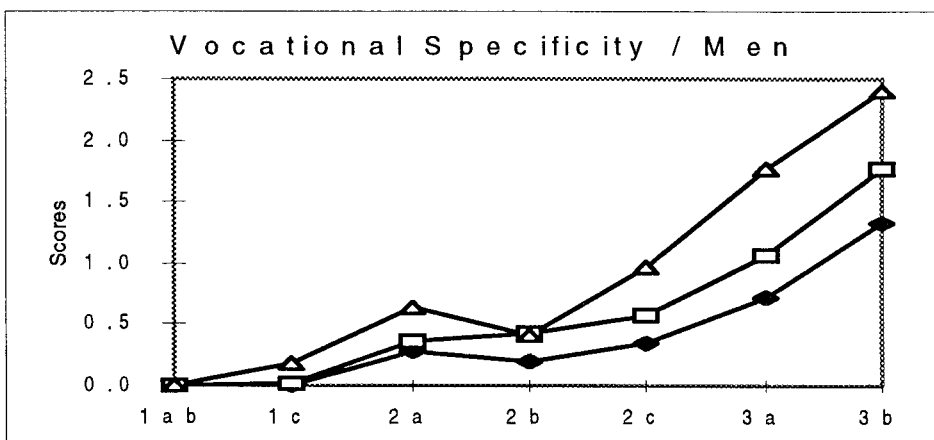
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APPENDIX

Average effects of qualifications on standardised prestige in groups of countries with varying levels of stratification, standardisation and vocational specificity

Stratification / Men

Standardization / Men

Vocational Specificity / Men

Stratification / Women

Standardization / Women

Vocational Specificity / Women

283
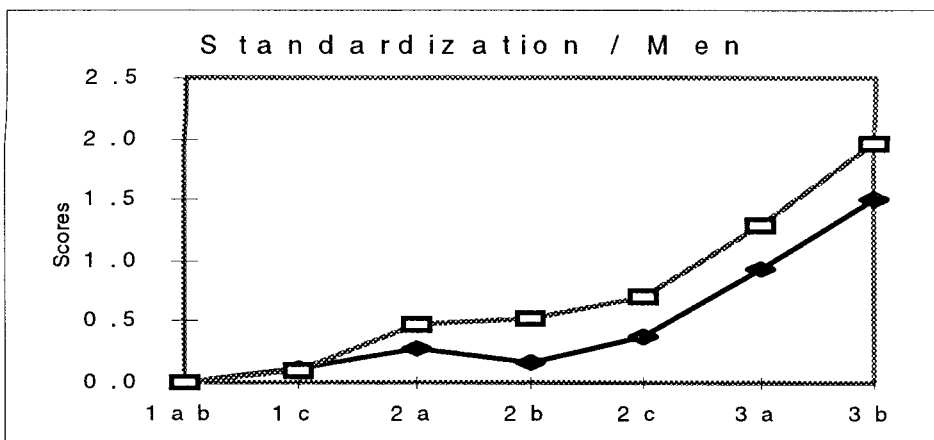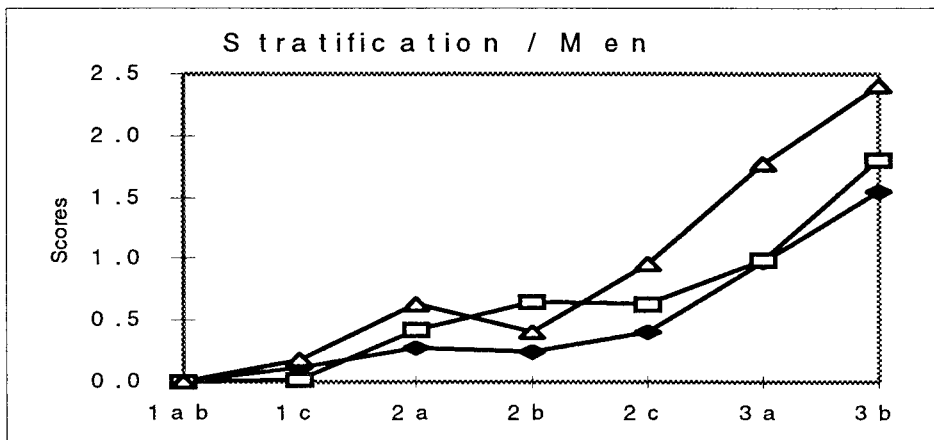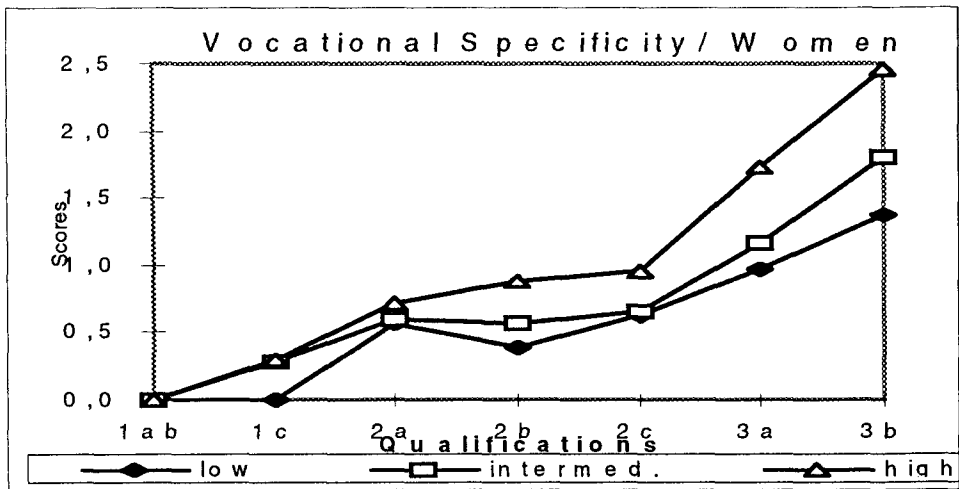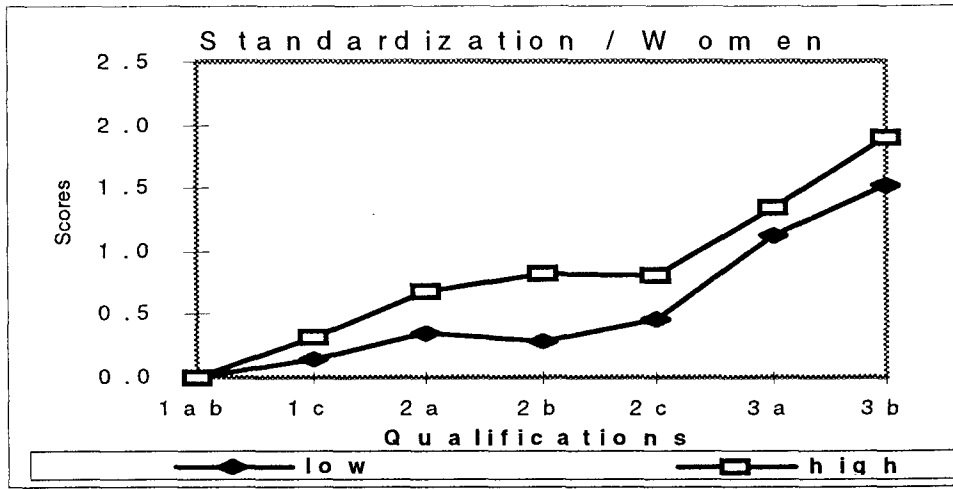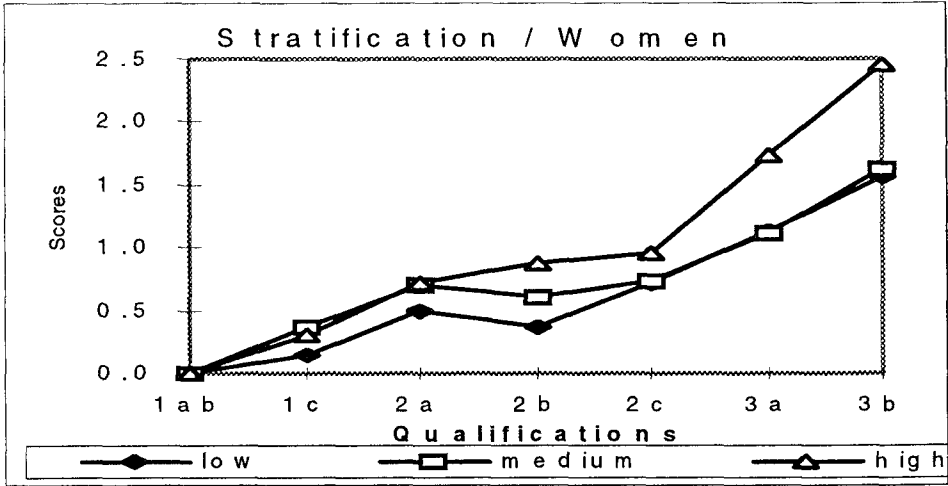
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SKILLS, OCCUPATIONAL DOMAINS AND WAGES

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Abstract

First of all, the paper investigates to what extent the importance of skills for a job is determined by the occupational domain the graduates are working in. In the second place, the effects of skill deficiencies on the earnings are investigated. The data we have used stem from a Dutch survey into the labour market position of graduates of higher vocational education. The results of our analyses show that both generic and occupation specific skills are considered to be important in the occupational domains in which the school-leavers are working. Furthermore, the paper shows that the graduates are faced with deficiencies with regard to these skills. However, only deficiencies with respect to occupation specific skills have a small effect on the earnings. It may be concluded that earnings in jobs of graduates, shortly after their entry in the labour market, are determined largely by the subject and level of their acquired education.

Resumé

Qualifications, secteurs professionnels et salaire

Cet article examine d'abord dans quelle mesure certaines compétences sont déterminées par les domaines professionnels dans lesquels les diplômés sont employés. Deuxièmement, il analyse l'impact des défauts de qualification sur le niveau de salaire. On montre la double importance des qualifications générales et de celles proprement professionnelles dans les domaines professionnels où les diplômés travaillent. Les résultats indiquent enfin que les diplômés souffrent de défauts de qualification. Toutefois, seuls ceux qui directement liés à l'activité considérée ont un impact négatif sur les niveaux de rémunération.

1. INTRODUCTION

If the objective is to optimise the match between education and the labour market, course curriculums must be evaluated continually in the light of developments in the labour market. Technological changes taking place in the labour market not only have far-reaching consequences for the structure of jobs, but also for the content and organisation of work and the skills required for professional practice (see Alfthan, 1985; Spenner, 1985; Bailey, 1990). To enable employees to adapt to these constant changes in the labour market, some argue in favour of giving initial education the task of teaching long-lasting skills with a high transferable value (Nijhof and Streumer, 1994; Brandsma et al., 1990). In their view, the emphasis in preparing for occupations should be on developing the generally applicable skills of students, rather than on developing occupation-specific skills (see also OECD, 1989).

This creates a dilemma for those responsible for designing educational courses. Greater emphasis on generic skills means that students are prepared for a wider range of occupations in the labour market. This increases their flexibility in the labour market and makes graduates less vulnerable to changes in employment levels in a specific segment of the labour market (ROA, 1995). At the same time, however, such graduates are less easily employable in particular jobs, because they possess relatively few occupation-specific skills. This means that these graduates are less productive than those who have been specifically trained for a particular occupation. On the other hand, if the emphasis in education is placed on providing students with occupation-specific skills, graduates may be immediately employable in a limited number of occupations, but as a result may be less flexible in the labour market.

This paper explores to what extent experienced deficiencies in the preparation for occupations with respect to both the more generic and the more occupation-specific skills affect the earnings level in the labour market. We also describe the effects of accepting a job which is less in line with one's educational skills - on wages. Using the job matching theory and the human capital theory, we can model the relationship between skills and wages in jobs. The basic principle underlying the job matching theory is that the available labour force has certain skills, and that jobs set certain skill demands. The match between the skills offered and those demanded determines the level of earnings (Tinbergen, 1956; Hartog, 1985). First, we will investigate the match between on the one hand the offered and required educational level and on the other hand the offered and required educational subject. Second, we will examine to what extent deficiencies and surpluses of educational skills affect wages. As the match between educational skills and demands is not the same for all jobs, we divide the occupational domain of a course - i.e. the occupations where school-leavers of that particular course find employment - in an exclusive own domain, a non-exclusive own domain, and an alternative domain. The exclusive own domain of a course consists of jobs where the type of education provided is an exclusive requirement. The non-exclusive own domain requires not only the type of education concerned, but also related educational courses, whereas the alternative domain requires different or no specific education in order to perform satisfactorily. For each occupational domain, we will investigate the effects of experienced skills deficiencies and the earnings in the job.

In Section 2, we will model the relationship between skills and wages in greater detail. The effect which discrepancies between the available skills and the skills demanded have on wages will be studied in two different ways. First, we will consider any discrepancies with regard to the match between the subject of education demanded and offered and the levels of education demanded and offered. Then we will consider discrepancies with regard to the match between the required and available skills relating to the utilisation of knowledge and skills in the performance of a job. In the latter approach, we will also make a distinction between the above-mentioned areas of the occupational domain of a course. In Section 3, we will discuss the data used. This deals in particular with the way in which clusters of skills were formed. Section 4 contains descriptive statistical data of the research population and the experienced discrepancies in the three areas of the occupational domain of a type of education. This section describes firstly whether there are any discrepancies with respect to the subject of education and the level of education. Next, the discrepancies are described in terms of utilisation of skills in the distinct areas of the occupational domain of a course. Section 5 presents and discusses the empirical findings of the estimates of wage functions. Section 6 rounds off with the conclusions of the study carried out.

2. THEORETICAL MODEL

In this section, we develop the model to be used for the mapping of the effects on wages of experienced deficiencies in the preparation for occupations. The model is based on two theoretical principles: the human capital theory and the job matching theory. Both the human capital theory and the job matching theory have their roots in the neo-classical theory. The neo-classical theory presupposes a labour market which functions perfectly, using wages as an allocation mechanism. The earnings of individuals in their jobs here are equal to their marginal productivity. The higher the productivity in jobs, the higher the wages paid.

The human capital theory and the job matching theory differ with regard to the explanation given for differences in productivity. According to the human capital theory, job productivity is determined exclusively by the amount of human capital acquired by the individual holding the job (Becker, 1964; Mincer, 1974). This theory therefore focuses primarily on the investment in relevant skills for the labour market which can be acquired in initial education or on the job (Schultz, 1961; Becker, 1964). Without these skills, individuals will be less productive in jobs in the labour market. The job matching theory adds to this that the productivity of individuals with a particular amount of human capital will not be equal in every job, but also depends on the job itself, and is therefore the result of the interaction between education and job characteristics (Tinbergen, 1956; Hartog, 1992; Sattinger, 1993).

During the first step of the analysis, we will investigate to what extent discrepancies relating to the educational level and subject affect the wages paid. The wages paid in a job can be formalised as a function of both the individual investment in human capital and the quality of the match between educational and occupational characteristics.

$$W_{ij} = f(HC_i, Deduc_{ij})$$

where:

W_{ij}	=	the wages of individual i in job j;
HC_i	=	the amount of human capital acquired by individual i;
$Deduc_{ij}$	=	the discrepancy between the education characteristics of individual i and the educational requirements of job j.

The above-mentioned earnings function will be tested by means of two empirical models. The first model includes only human capital factors. The analysis focuses on the extent to which individual investments in human capital affect wages. Following the human capital theory, we expect that such investments will lead to higher wages. The second model includes not only human capital factors, but also indicators representing the discrepancy between the qualifications offered and the qualifications required for the job. The match between the required subject of education and level of education on the one hand, and the acquired subject and level of education on the other hand, constitutes an indication for this discrepancy. On the basis of the job matching theory, we expect that experienced discrepancies - i.e. being employed in a job below one's educational level, or being employed in a job which does not match one's subject of education - will have a negative effect on wages.

During the second step of our analysis, we will investigate to what extent experienced deficiencies regarding the utilisation of skills in a job, affect wages. The effect of this type of discrepancy on wages can be formalised as follows:

$$W_{ij} = f(HC_i, DQ_{ij})$$

where:

W_{ij} = the wages of individual i in job j;
HC_i = the amount of human capital acquired by individual i;
DQ_{ij} = the discrepancy between the skills of individual i and the required skills of job j.

To some extent, there is a relationship between the discrepancies relating to the acquired education level and subject, and the deficiencies experienced when performing a job. If there is an insufficient match between the educational level attained and the subjects followed, and the requirements, this will lead to discrepancies in the utilisation of skills during the performance of one's job. If, on the other hand, no deficiencies are experienced relating to the educational level attained and the subjects followed, there may still be discrepancies in the performance of one's job. This may be the case if the education constitutes an inadequate preparation for an occupation, but is the best qualification available in comparison with alternatives, which causes employers to require the course involved.

On the basis of the job matching theory, we expect that skills deficiencies experienced during the performance of a job will have a negative effect on wages. Experienced surpluses, however, will have hardly any effect on wages (or possibly a minor positive effect).

Skills deficiencies and surpluses experienced during the performance of jobs may be partly due to allocation. In this context, it is useful to divide the range of occupations in which graduates of a course find employment into three areas. These are occupations for which the course provides:
1. exclusive preparation, the *"exclusive own domain"*;
2. non-exclusive preparation, the *"non-exclusive own domain"*;
3. no preparation, the *"alternative domain"*.

The first area of the occupational domain of a course - the occupations for which the course prepares exclusively - consists of occupations in which the course concerned is an exclusive requirement. In occupations for which the course does not prepare exclusively, other (related) courses also have access. The third area of the occupational domain of a course concerns occupations for which the course involved is not required.

For each area of the occupational domains, we estimate an earnings function which includes both human capital factors and indicators for discrepancies in terms of skills deficiencies and surpluses experienced during working in the job. In general, we do not expect effects (perhaps a minor positive effect) of experienced surpluses on wages. In the areas of the occupational domain of the course for which this course prepares exclusively, we expect that job-specific skills are important for adequate performance. Experienced deficiencies with respect to these skills will have negative effect on wages. Experienced deficiencies with regard to generic skills and experienced surpluses will not have an effect on wages.

In the areas of the occupational domain for which the course prepares, but for which other courses also prepare, we expect that both generic and job-specific skills are important conditions for adequate performance. Any skills deficiencies, in particular job-specific skills deficiencies, will have a negative effect on wages. However, the negative effect of job-specific skills deficiencies will be less strong than in the exclusive own domain.

In areas of the occupational domain of a course for which the course does not prepare, only generic skills will be important for adequate performance. Experienced deficiencies will have a negative effect on wages, while experienced surpluses with respect to these skills will have a minor positive effect on wages.

3. DATA AND METHODOLOGY

The data for the analysis in this paper derives from the Higher Vocational Education Monitor, an annual survey of graduates from Higher Vocational Education[1]. The survey registers the process of entry in the labour market, collecting data concerning the job-search process, unemployment spells, the social status and the characteristics of current jobs.

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[1] The Research Centre for Education and the Labour Market (ROA) performs this research in the Netherlands under a contract from the Higher Vocational Education Council. The survey is carried out in co-operation with DESAN Market Research.

The data used in this paper derives from the survey carried out in the Autumn of 1994 (Van de Loo et al., 1995; Pagrach et al., 1995) and relates to graduates from the 1992/93 school year from 170 different types of Higher Vocational Education. These types of education can be distinguished in 7 educational sectors: agriculture, education, technology, economics, health care, behaviour and community work, and fine arts. From this data, we have selected respondents who completed a full-time course in Higher Vocational Education, had paid employment at the time of the survey, and were no older than 36 years. This yielded a population of 7.325 cases.

The survey devotes considerable attention to determining how important particular skills are for the respondents in order to perform properly in their jobs. Each respondent is asked to indicate whether he or she believes that more attention should be given to the skill concerned during the educational course ("experienced deficiency"), that the emphasis was more or less right, or that less attention should be given to this aspect ("experienced surplus"). The list of skills is taken from previous literature on the classification of jobs (Algera, 1991), supplemented by the views of experts in the relevant sectors of Higher Vocational Education. The skill requirements were formulated so as to be independent of occupational or sectoral specificities.

The graduates were presented with a list of 38 skills (see Appendix) classified under three headings: Knowledge, Competences and Personal Traits. "Knowledge" comprises skills with some relation to knowledge or understanding of the occupational field. "Competences" comprises a classification of skills relating to applying and analysing this occupation-specific knowledge and understanding, complemented by manual skills, presentation techniques, leadership and communication skills, and the ability to collect and document information. "Personal traits" covers skills such as originality, creativity, independence, empathy, adaptability, ability to cope with stress, self-discipline, systematic evaluation and physical fitness.

The respondents were asked to rate the importance of each of these skills in relation to proper performance in their current jobs. They were presented with a 4-point scale on which to indicate their answers. The scale ranges from unimportant (category 1), through fairly unimportant (category 2) and fairly important (category 3), to very important (category 4). Respondents were also asked to indicate whether the attention paid to the skills involved during the course should be greater, equal, or less.

To reduce the number of skills in the analysis to manageable proportions, we combined the 38 skills distinguished in the data into a number of groups of interrelated skills using a cluster analysis[2]. This analysis is based on a matrix in which the rows represent the skills and the columns represent the graduates. Each row shows the score profile of the graduates for one skill. Cluster analysis is used to combine those skills for which the score profiles show a given degree of similarity, using the squared Euclidean distance between two items as a criterion (Aldenderfer and Blashfield, 1984). Using this measure, the distance between two skills is determined by squaring the difference between the scores for those two skills for each graduate, and adding the resulting differences for all of the graduates.

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[2] See Aldenderfer and Blashfield (1984) for more details.

Having determined the squared Euclidean distance between each pair of skills in the matrix, the skills are then clustered as follows: the two skills with the most similar score profiles are combined in the matrix as one new element (cluster). Then the squared Euclidean distances for all skills (one of which is now a cluster) are recalculated for the new matrix, and the two skills (or the skill and the cluster) whose score profiles exhibit the greatest similarity are again combined to form a cluster. This method ensures that the intra-variance of the clusters is as low as possible, whereas the inter-variance is as high as possible (Aldenderfer and Blashfield, 1984).

The clustering process could in principle have been repeated until all skills had been combined in one cluster, but this would only be sensible if the skills concerned were sufficiently homogenous. The endpoint of the clustering process is determined in the light of two types of criteria, a statistical and a qualitative one. The statistical criterion is that the clustering process should stop at the point at which the Ward coefficient rises relatively sharply. Since this criterion does not always provide a sufficiently definite endpoint, the similarities between the skills (clusters) are also considered. The clustering process comes to an end when the two skills to be combined next are considered as having too little in common[3].

Eventually, seven skill clusters were formed, combining 23 of the skill items. Diagram 1 presents an overview of these clusters and the items included in each cluster. The largest cluster combines items which relate to attitudinal characteristics. There also seems to be a particularly strong interrelationship between skills which refer to the knowledge and skills which are specific to an occupation. In addition to these two large clusters, a number of smaller clusters were created, leaving 15 items not clustered. It was then decided to make a more limited selection of the remaining clusters and items. All clusters created were selected, along with three of the remaining skill items. These were the items "communicative skills", "IT skills" and "leadership".

For each of the selected clusters, we have calculated the average score for each of the respondent's answers on the underlying items. The question of whether a particular aspect should be given more, the same amount of, or less attention during the course is recoded as two dummy variables: more attention ("deficiency") or less attention ("surplus"). For each skill item in a cluster, two dummy variables were made: one indicating the deficiency of the skill item and another indicating the surplus of the skill item. Within each cluster, the dummies were calculated and divided by the number of skill items in the cluster.

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[3] This concerned the skill clusters "attitudinal characteristics" and "intellectual skills".

Diagram 1
The skill clusters used in the study

Cluster 1: **attitudinal characteristics**
- Collaboration with colleagues; teamwork
- Independence and initiative
- Accuracy, precision, meticulousness
- Adaptability, flexibility and ability to improvise
- Ability to cope with stress and uncertainty
- Self-discipline, perseverance

Cluster 2: **intellectual skills**
- Originality, creativity, conceptual and innovative abilities
- Empathy
- Systematic evaluation, establishing and using feedback

Cluster 3: **occupation-specific knowledge and skills**
- General theoretical knowledge of the discipline
- Specialised professional knowledge
- Occupation-specific methods and techniques
- Keeping up with recent developments in the professional field
- Application of (theoretical) knowledge and techniques in practice

Cluster 4: **organisational knowledge**
- Understanding of the processes and organisation of the business
- Understanding of financial management of the organisation
- Understanding of administration and other managerial matters

Cluster 5: **presentation skills**
- Written presentations (letters, reports, articles)
- Verbal presentations (telephone, public presentations)

Cluster 6: **planning skills**
- Planning, co-ordinating and organising activities
- Gathering relevant information for activities

Cluster 7: **institutional knowledge**
- Understanding of legislation and regulations relevant to the professional field
- Understanding of labour laws, employment conditions and requirements, and work safety

Item 8: **communication skills**
- Making and maintaining contacts with customers, patients, students etc.

Item 9: **IT skills**
- Knowledge of computer programmes and information technology

Item 10: **leadership**
- Leadership

4. DOMAINS AND SKILLS

Table 1 presents data on a number of statistical aspects of the variables used in the analysis. In addition to a number of control variables such as gender, age and the characteristics of the firm in which the respondent works, there are three groups of variables. The first group comprises a number of variables which indicate the human capital which individuals have accumulated, such as previous education, educational sector within Higher Vocational Education, board experience and work experience. The second group of variables are indicative of the quality of the job match with respect to both the level and the subject of education. The variables in the third group relate to the importance of the skills required to perform properly in one's job as discussed in Section 3, and to any deficiencies and surpluses which may have been experienced as regards these skills.

Circa 27 % of the respondents said that for their current job their employers attempted to recruit only people whose educational background was in the field which the respondent had in fact studied. These are said to be working in the "exclusive own occupational domain" of that type of education. More than half of the respondents said that either their own education or education in a related subject was required. These school-leavers are said to be working in the "non-exclusive own occupational domain". Finally, 19 % of the respondents held a job for which no specific subject of study was required, or the requirement was education in a subject completely different to that which the respondent had in fact studied. These are said to be working in the "alternative domain" of that type of education.

The graduates were also asked to indicate the minimum educational level demanded by their employers for the jobs they had. Circa 57 % had jobs for which Higher Vocational Education was the minimum level required, 22 % had jobs for which a lower educational level was required and another 22 % had jobs for which a higher level (at least the second phase of Higher Vocational Education or University Education) was required.

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Table 1

Descriptive statistics (unweighed set)

</div>

Variable	percentage	average	standard deviation
Gross hourly wage (in DFL)		18.99	4.48
Age		24.85	1.82
Male	48		
Ethnic minority	1		
Profit sector	64		
Firm size (>= 50 employees)	65		
Location of firm			
North	6		
East	21		
West	45		
South	24		
Foreign	4		
Previous education			
Senior General Secondary Education	34		
Pre-university Education	31		
Senior Vocational Secondary Education	31		
Higher Vocational Education	2		
University Education	1		
Other	2		
Educational sector			
Agriculture	9		
Education	7		
Technology	22		
Economics	38		
Health care	13		
Behaviour & community work	10		
Fine Arts	2		
Length of study (months)		49.13	10.47
Board experience	31		
Paid work experience during study	16		
Relevant work experience	35		
Work experience in current job (months)		9.70	6.34
Exclusive own domain	27		
Non-exclusive own domain	54		
Alternative domain (education in other fields is required)	19		
Job level < educational level	22		
Job level = educational level	57		
Job level > educational level	22		
Evaluation of match between education and current activities			
(1=bad, 4=good)		3.13	0.76
Importance of:			
(1=unimportant, 4=very important)			
Attitudinal characteristics		3.59	0.42
Intellectual skills		3.35	0.58
Occupation-specific skills		3.23	0.61
Organisational knowledge		2.63	0.81
Presentation skills		3.25	0.73
Planning skills and gathering info.		3.24	0.67
Institutional knowledge		2.72	0.82
Communication skills		3.35	0.88
IT skills		2.90	0.89
Leadership		2.63	1.00
Experienced deficiencies in			
Attitudinal characteristics		0.27	0.28
Intellectual skills		0.24	0.30
Occupation-specific skills		0.31	0.25
Organisational knowledge		0.23	0.33
Presentation skills		0.37	0.41
Planning skills and gathering info.		0.29	0.35
Institutional knowledge		0.31	0.38
Communication skills		0.35	0.48
IT skills		0.31	0.46
Leadership		0.29	0.45
Experienced surpluses in			
Attitudinal characteristics		0.02	0.09
Intellectual skills		0.03	0.12
Occupation-specific skills		0.04	0.12
Organisational knowledge		0.09	0.24
Presentation skills		0.03	0.14
Planning skills and gathering info.		0.04	0.15
Institutional knowledge		0.09	0.24
Communication skills		0.03	0.18
IT skills		0.07	0.25
Leadership		0.05	0.23

Table 2 shows the average scores and standard deviations for the importance of each of the defined skills within each of the three domains. A variance analysis was used to assess the extent to which these scores vary systematically according to the domains in which the respondents worked. Any such differences would be expected to be especially evident with respect to the occupation-specific skills, which would be important primarily in the domain which is specific to that type of education. The generic skills were not expected to show systematic differences between the domains.

Table 2
The importance of the skill clusters, by occupational domain
(1=unimportant, 4=very important)

Importance	exclusive own domain		non exclusive own domain		alternative domain		explained variance (%)
	mean	s.d.	mean	s.d.	mean	s.d.	
Attitudinal characteristics	3.63	0.37	3.61	0.39	3.44	0.59	2.6
Intellectual skills	3.49	0.51	3.37	0.54	3.10	0.78	4.8
Occup.-specific skills	3.48	0.42	3.27	0.51	2.71	0.90	17.5
Organisational knowledge	2.49	0.80	2.69	0.80	2.56	0.90	1.2
Presentation skills	3.19	0.70	3.30	0.71	3.09	0.93	1.2
Planning skills and gathering info.	3.24	0.64	3.29	0.63	2.98	0.89	2.9
Institutional knowledge	2.83	0.77	2.75	0.79	2.48	0.93	2.3
Institutional knowledge	2.83	0.77	2.75	0.79	2.48	0.93	2.3
Communication skills	3.46	0.82	3.37	0.85	3.16	1.03	1.4
IT skills	2.86	0.85	2.91	0.89	2.74	1.02	0.5
Leadership	2.78	0.98	2.64	0.98	2.38	1.10	1.8

In general, attitudinal characteristics, intellectual skills, occupation-specific skills, communication skills and presentation skills were considered to be the most important ones. This was true regardless of the domain in which the respondent worked, except for the case of occupation-specific skills, the importance of which was, as expected, much lower in the alternative domain than in the own domain. In fact, the domain in which respondents were employed explains 18 % of the variance in the scores for this skill cluster. The systematic differences between the three domains for the other skills were very low.

Table 3
Deficiencies experienced with regard to the skill clusters,
by occupational domain

Importance	exclusive own domain		non exclusive own domain		alternative domain		explained variance (%)
	mean	s.d.	mean	s.d.	mean	s.d.	
Attitudinal characteristics	0.27	0.28	0.28	0.28	0.29	0.31	0.03
Intellectual skills	0.24	0.27	0.24	0.30	0.26	0.32	0.05
Occup.-specific skills	0.33	0.26	0.32	0.25	0.27	0.26	0.80
Organisational knowledge	0.20	0.33	0.24	0.33	0.26	0.35	0.44
Presentation skills	0.36	0.40	0.38	0.41	0.38	0.42	0.04
Planning skills and gathering info.	0.29	0.34	0.30	0.36	0.29	0.35	0.03
Institutional knowledge	0.37	0.41	0.30	0.37	0.31	0.38	0.69
Communication skills	0.36	0.48	0.35	0.48	0.37	0.48	-*
IT skills	0.29	0.45	0.31	0.46	0.33	0.47	-*
Leadership	0.25	0.43	0.30	0.46	0.33	0.47	-*

* Because the dependent variable in this case is a dummy rather than a cluster of skills, no variance analysis could be applied. From an inspection of the proportions, it is clear that the differences between the domains are negligible.

Table 3 shows the average scores of the deficiencies experienced in relation to each of the skill clusters. The scores range from 0 to 1, where 0 means that the respondents considered it unnecessary to give each skill more attention in education, while the score 1 means that the respondents considered it necessary to give each skill more attention in education. A score between 0 and 1 means that the respondents think that more attention would be desirable for some of the skills.

On average, more than a quarter of the respondents consider it necessary that particular skills should be given more attention. The scores for the "deficiency" variables are considerably higher than those for the "surplus" variables (cf. Table 1). The differences between the skill clusters are small. For those clusters which relate to occupation-specific knowledge and skills, institutional skills, communicative skills, IT skills, and presentation skills, more than 30 % of the respondents are in favour of giving more attention to these skills in the educational courses. Less than 25 % of the respondents thought that more attention should have been given to organisation knowledge and intellectual skills. For the other skill clusters, between 25 % and 30 % of the respondents experienced deficiencies.

The occupation-specific knowledge and skills are important in particular in the (exclusive) own domain of a course, and less so in the alternative domain of the course (cf. Table 2). Table 3 shows that deficiencies in these skills are experienced primarily in the own domain of a course. Although in the alternative domain of a course, there is no greater importance attached to presentation skills, organisational skills, IT skills, attitude characteristics, leadership, intellectual skills and communicative skills; the deficiencies experienced in these skills are nevertheless greater than in the own domain of the course. Evidently, in education generic skills are acquired which can be used adequately in the alternative domain.

5. WAGES

In this section, we will first investigate to what extent discrepancies relating to the educational level and subject of education, and discrepancies relating to the utilisation of skills in the jobs, have any effect on wages. Subsequently, we will investigate to what extent the effects of these discrepancies on wages vary in the different areas of the occupational domain of a course.

To be able to estimate the effects on wages resulting from discrepancies relating to the subject and level of education, two models were developed in Section 2. The first model includes not only a number of control variables, but also those variables which refer to the individual's human capital: the educational sector within Higher Vocational Education in which the respondent studied, the level of any previous education, the length of the study, board experience, paid and relevant work experience acquired in the course of the study, and work experience in the respondent's current job. The other variables - gender, ethnicity, age, profit sector and location of the firm - are included for control purposes. In accordance with the human capital theory, we expect all of the experience variables to have a positive effect on earnings.

In the second model, indicators for discrepancies relating to the level and subject of education were added to the first model. From the job matching theory one may deduce that experienced deficiencies - i.e. being employed in a job below the attained educational level, or being employed in a job requiring a different subject of education than the one followed - will have a negative effect on wages.

To assess the effects on wages of discrepancies relating to the utilisation of skills in a job, a third model was developed in Section 2. The latter model includes not only the above-mentioned control variables and the variables indicating the human capital of individuals, but also variables representing the skills deficiencies and surpluses experienced in a job. It is expected that experienced skills deficiencies will have a negative effect on wages, while experienced surpluses will have hardly any effect on wages, or a minor positive effect.

Experienced skills deficiencies and surpluses may be partially due to the importance of these skills in the job, and hence this third model will be estimated for each separate area of the occupational domain of a course. It is expected that experienced deficiencies in occupation-specific skills in the exclusive own domain will have an effect on wages. In the non-exclusive own domain, it may be expected that in particular deficiencies regarding occupation-specific skills will have a negative effect on wages. Experienced surpluses will have any effect on wages also. It is expected that the negative effect of deficiencies in occupation-specific skills will be less strong than it will be in the exclusive own domain. Experienced surpluses will have hardly any effect on wages. In the alternative domain, it may be expected that in particular deficiencies with respect to generic skills will have a negative effect on wages. Experienced deficiencies in occupation-specific skills will have hardly any effect on wages.

Table 4
Wage equation (OLS of the logarithm of the gross hourly wage)

Model Variable	1		2		3	
	parameter	standard deviation	parameter	standard deviation	parameter	standard deviation
Intercept	2.255*	.056	2.246*	.057	2.268*	.058
Age	.021*	.002	.021*	.002	.021*	.002
Male	.023*	.007	.014*	.007	.019*	.008
Ethnic minority	.020	.031	.021	.031	.011	.032
Profit sector	-.009	.008	-.009	.008	-.005*	.008
Firm size (>= 50 employees)	.017*	.007	.010	.007	.020*	.007
Location of firm						
North	-.032*	.013	-.032*	.012	-.035*	.013
East	-.049*	.008	-.044*	.008	-.044*	.008
West	ref.	ref.	ref.	ref.	ref.	ref.
South	-.034*	.008	-.033*	.008	-.029*	.008
Foreign	.064*	.016	.060*	.016	.062*	.017
Previous education:						
Senior General Secondary Education	ref.	ref.	ref.	ref.	ref.	ref.
Pre-university Education	.011	.008	.011	.008	.014	.008
Senior Vocational Secondary Education	-.007	.008	-.005	.008	-.001	.009
Higher Vocational Education	.041	.023	.014	.023	.058	.024
University Education	-.011	.044	-.007	.043	.003	.045
Other	-.020	.024	-.013	.023	.005	.025
Educational sector:						
Agriculture	ref.	ref.	ref.	ref.	ref.	ref.
Education	.053*	.017	.010	.017	.066*	.018
Technology	.039*	.012	.025*	.012	.028*	.013
Economics	.010	.012	.008	.011	-.00004	.012
Health care	.130*	.014	.106*	.014	.125*	.015
Behaviour & community work	.075*	.015	.077*	.015	.064*	.015
Fine Arts	-.124*	.024	-.094*	.024	-.124*	.025
Length of study	.0005	.0003	.0002	.0003	.0006	.0003
Board experience	.009	.007	.009	.006	.005	.007
Paid work experience during study	.004	.008	.005	.008	.003	.009
Relevant work experience	.021*	.007	.018*	.006	.017*	.007
Work experience in current job (in months)	.005*	.0005	.004*	.0005	.004*	.0005
Exclusive own domain			.047*	.010		
Non-exclusive own domain			.027*	.008		
Alternative domain			ref.	ref.		
Overeducation			-.105*	.008		
Undereducation			.010	.008		
Matching level			ref.	ref.		
Evaluation of job match			.009*	.004		
Experienced deficiencies in:						
Attitudinal characteristics					.007	.015
Intellectual skills					.007	.013
Occupation-specific skills					-.033*	.013
Organisational knowledge					.015	.010
Presentation skills					.012	.008
Planning skills and gathering info.					-.003	.010
Institutional knowledge					.015	.009
Communication skills					-.011	.007
IT skills					-.004	.007
Leadership					-.001	.007
Experienced surpluses in:						
Attitudinal characteristics					-.044	.044
Intellectual skills					-.031	.032
Occupation-specific skills					-.016	.028
Organisational knowledge					-.031*	.015
Presentation skills					-.002	.025
Planning skills and gathering info.					.014	.023
Institutional knowledge					.017	.014
Communication skills					.004	.019
IT skills					.015	.013
Leadership					.004	.015
Adj. R^2		.103		.155		.100
Df		5853		5488		5171
N		5869		5519		5216

* = significant at a confidence level of 95 %

Tables 4 and 5 show the results of the analyses carried out. The logarithm of the gross hourly wage was used as dependent variable. The first model (*cf.* Table 4), containing the education and experience variables, explains 10 % of the variance of the gross hourly wages of the graduates. This seems very little, but one must remember that the research population consists of newly graduated students from Higher Vocational Education. As a result of the very similar starting wages for this category, there is only little variance to be explained.

The model shows that in particular the education sector in Higher Vocational Education has an effect on wages. Graduates with an educational background in the fields of "Health care" or "Behaviour and community work" are significantly better paid than those with an educational background in "Agriculture" (the reference category), as are those with "Technical" and "Education" training, while those having studied "Fine Arts" are paid significantly less. The other variables for training and experience, such as previous education or board experience, have no significant effect on earnings, with the exception of the number of months that the respondent has worked in his or her current job and any relevant work experience during or prior to the course in Higher Vocational Education.

Model 2 gives a considerably better fit than model 1. Discrepancies relating to the subject and level of education followed seem to significantly determine the respondent's wages in the job. The partial effect of working below the level of Higher Vocational Education ("overeducation") results in wages which are $e^{0.105} - e^{0} =$) 11 % lower. Graduates working in the occupational domain which is specific exclusively to their own education earn ($e^{0.047} - e^{0} =$) 5 % more than those working in the alternative domain, while graduates working in the domain which is specific to their type of education, but not exclusively so, still earn ($e^{0.027} - e^{0} =$) 3 % more than those in the alternative domain. The wage difference between a graduate with a good job match (according to the respondent's own evaluation) and one whose education matched poorly with his or her job was ($e^{0.009}$ vs. $e^{0.036} =$) 3 %. From the results of model 2, we can deduce that flexibility (i.e. accepting jobs for which the subject of education obtained is not a requirement) has a negative effect on wages. Such shifts lead to 3-5 % lower gross hourly wages.

Model 3 provides a less favourable model fit than model 2. This means that the model including human capital variables and indicators for discrepancies relating to the educational level and subject, explains the earnings differences between graduates better than does the model which includes the human capital variables and indicators for discrepancies relating to the utilisation of skills in the performance of jobs. The results of model 3 show that skills deficiencies or surpluses experienced in jobs have hardly any effect on wages. However, the table shows a significant negative effect on wages of experienced deficiencies in occupation-specific skills. The results of models 2 and 3 indicate that employers do not reflect the experienced job discrepancies in the wages, but on the contrary focus on the observed discrepancies relating to the educational subject offered and demanded on the one hand, and the education level offered and demanded on the other hand. The course taken, rather than job performance is an important determinant for wages during the first years after entry in the labour market. A possible exception may be an insufficient preparation in

occupation-specific skills. Experienced deficiencies have a negative effect on wages. This effect is $(e^{0.033} - e^0 =)$ 3 %.

Table 5 shows the results of model 3 for each of the areas of the occupational domain. Experienced skills deficiencies and surpluses, regardless of one's position in the labour market, appear to have no significant effect on wages in jobs. This shows again that the way in which one performs in a job shortly after one's entry in the labour market has no significant influence on the earnings of school-leavers.

Table 5
Wage equation for each area of the occupational domain
(OLS of the logarithm of the gross hourly wage)

Variable	exclusive own domain			non-exclusive own domain			alternative domain		
	parameter	standard deviation		parameter	standard deviation		parameter	standard deviation	
Intercept	2.381*	.125		2.351*	.072		1.940*	.160	
Age	.014*	.115		.019*	.002		.034*	.005	
Male	.023	.015		.012	.010		.014	.019	
Ethnic minority	.125	.076		-.011	.038		-.024	.087	
Profit sector	.027	.017		-.026*	.011		-.006	.022	
Firm size (>= 50 employees)	.014	.015		.033*	.009		.013	.017	
Location of the firm									
North	-.021	.028		-.042*	.017		-.047	.033	
East	-.049*	.016		-.038*	.011		-.058*	.022	
West	ref.	ref.		ref.	ref.		ref.	ref.	
South	-.029	.016		-.027*	.010		-.059*	.021	
Foreign	.011	.028		.093*	.025		-.034	.045	
Previous education:									
Senior General Secondary Education	ref.	ref.		ref.	ref.		ref.	ref.	
Pre-University Education	.047*	.016		.004	.010		.006	.020	
Senior Voc. Secondary Education	.010	.017		-.003	.011		.010	.023	
Higher Vocational Education	.042	.038		.052	.033		.024	.086	
University Education	.008	.087		-.079	.059		.172	.104	
Other	-.003	.052		-.025	.032		.010	.063	
Educational sector:									
Agriculture (HAO)	ref.	ref.		ref.	ref.		ref.	ref.	
Education (HPO)	.058	.033		.069*	.029		.079	.057	
Technology (HTO)	-.013	.027		.025	.015		.066*	.033	
Economics (HEO)	.007	.027		-.009	.015		.041	.030	
Health care (HGZO)	.196*	.029		.034	.019		.033	.054	
Behaviour & community work (HSAO)	.078*	.034		.049*	.019		.047	.042	
Fine arts (KUO)	-.009	.044		-.132*	.038		-.204*	.060	
Length of study	-.0007	.0006		.001*	.0005		.0002	.0008	
Board experience	.013	.013		-.006	.009		.032	.018	
Paid work experience during study	-.026	.017		.012	.021		.020	.020	
Relevant work experience	.002	.013		.026*	.008		.020	.018	
Work experience in current job	.004*	.0010		.004*	.006		.004*	.001	
Experienced deficiencies in:									
Attitudinal characteristics	.040	.028		-.0009	.019		.026	.039	
Intellectual skills	.033	.026		.011	.017		-.062	.034	
Occupation-specific skills	-.051	.026		-.030	.017		-.020	.036	
Organisational skills	.025	.021		.018	.013		-.003	.026	
Presentation skills	.013	.016		.012	.011		.0006	.022	
Planning skills & gathering info.	-.037	.020		.012	.012		.008	.026	
Institutional knowledge	.034*	.016		-.005	.011		.021	.023	
Communicative skills	-.024	.014		-.014	.009		.002	.019	
IT skills	.013	.014		-.004	.009		-.027	.018	
Leadership	.000003	.015		.003	.009		.012	.019	
Experienced surpluses in:									
Attitudinal characteristics	.004	.093		-.086	.054		-.060	.110	
Intellectual skills	.026	.070		-.056	.038		.059	.085	
Occupation-specific skills	.108	.072		.001	.040		.002	.054	
Organisational skills	-.022	.026		-.033	.019		-.072	.048	
Presentation skills	.003	.048		.009	.031		.010	.067	
Planning skills & gathering info.	.062	.044		-.003	.031		-.050	.060	
Institutional knowledge	.018	.031		.017	.018		.015	.036	
Communicative skills	.004	.040		.021	.023		-.021	.049	
IT skills	-.003	.024		.018	.016		-.006	.039	
Leadership	-.017	.030		.014	.019		.015	.038	
adj. R²		.149			.092			.093	
df		1367			2741			937	
N		1412			2786			982	

* = significant at a confidence level of 95 %

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6. CONCLUSION

Educational courses in Higher Vocational Education have always been strongly oriented towards vocational preparation. In this respect, Higher Vocational Education is quite unlike University Education, where less emphasis is given to specific preparation for an occupation. Nevertheless, the importance of generic skills has also been increasingly emphasised within Higher Vocational Education (cf. Nijhof and Streumer, 1994; WRR, 1995). It has been said that, as a result of technological and organisational changes, more attention should be devoted to skills which can be transferred from one job to another (OECD, 1989).

A greater emphasis on generic skills gives students access to a wider range of occupations. The price to be paid for this is fewer occupation-specific skills, rendering students less easily employable in jobs which rely heavily on occupation-specific skills than students who do possess such skills.

In this paper, we have examined to what extent deficiencies in the preparation of occupations have an effect on the earnings of graduates of Higher Vocational Education in the labour market. We have also described the effects on earnings in jobs created by accepting employment which is less in line with one's level of education. Two models have been estimated, of which the first explores the effects on earnings of discrepancies relating to the educational subject and level of education, while the second investigates the effects on earnings of discrepancies relating to the utilisation of skills in the performance of jobs.

The results of these estimates show that discrepancies relating to the educational subject and level of education - in particular accepting employment below one's level of education and working in jobs requiring a different subject of education as preparation - have a negative effect on earnings. Discrepancies relating to the skills deficiencies experienced in jobs, on the other hand, have hardly any effect on earnings. Only the experienced deficiencies in occupation-specific skills affects the wages negatively. The area of the occupational domain in which graduates find employment - i.e. the exclusive own domain or the alternative domain - plays no role here. All areas share the characteristic that experienced discrepancies relating to the utilisation of skills have no significant effect on earnings in jobs. But in the exclusive own domain, the experienced deficiencies in occupation-specific skills have a greater negative but not significant effect on wages than in the non-exclusive own domain or in the alternative domain.

It may be concluded that earnings in jobs of graduates, shortly after their entry in the labour market, are determined largely by the subject and the level of their acquired education. As graduates have little or no work experience, employers have difficulties in assessing the actual productivity of school-leavers, and hence their earnings. The educational characteristics of graduates - their subject and level of education - constitute the primary sources of information for employers to establish the appropriate level of their earnings. Although skills - in particular attitudinal characteristics, intellectual skills, communication skills, and the job-specific skills - are considered important factors for adequate performance in jobs, this importance and any experienced skills deficiencies are hardly reflected in the earnings.

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It must be noted here that these analyses relate to the functioning of graduates at the beginning of their careers. It may be that the effects of experienced deficiencies relating to the utilisation of skills in jobs become evident when they have been active in the labour market for somewhat longer.

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APPENDIX

List of skills presented to respondents:

Knowledge

1. General theoretical knowledge of the discipline
2. Specialised professional knowledge
3. Occupation-specific methods and techniques
4. Keeping up with recent developments in the professional field
5. Knowledge of the applications of materials and resources
6. Knowledge of computer programmes and information technology
7. Knowledge of quality management and quality control
8. Understanding of legislation and regulation relevant to the professional field
9. Understanding of labour laws, employment conditions and requirements and work safety
10. Knowledge of financing and subsidy possibilities, and how to obtain funding
11. Understanding of the processes and organisation of the business
12. Understanding of financial management of the organisation
13. Understanding of administration and other managerial matters

Competences

14. Application of (theoretical) knowledge and techniques in practice
15. Analytic, diagnostic and research skills
16. Active and passive mastery of foreign languages
17. Manual skills
18. Providing information and advice, public relations and publicity work
19. Written presentations (letters, reports and articles)
20. Verbal presentations (telephone, public presentations)
21. Commercial knowledge and skills (purchasing and sales, marketing, acquisitions)
22. Negotiation skills
23. Planning, co-ordinating and organising activities
24. Gathering relevant information for activities
25. Making documentation, registering data, archiving
26. Leadership
27. Teaching and training skills (giving directions, knowledge transfer)
28. Making and maintaining contacts with customers, patients, students etc.
29. Collaboration with colleagues; teamwork

Personal traits

30. Originality, creativity, conceptual and innovative ability
31. Independence, initiative
32. Accuracy, precision, meticulousness
33. Empathy
34. Adaptability, flexibility and ability to improvise
35. Ability to cope with stress and uncertainty
36. Self-discipline, perseverance
37. Systematic evaluation, establishing and using feedback
38. Physical fitness

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UN DOUBLE PROCESSUS DE DÉSTABILISATION
DANS LES SOCIÉTÉS POST-SOCIALISTES
LE CAS DE L'ALLEMAGNE DE L'EST

QUELQUES RÉFLEXIONS EN PRÉPARATION
D'UN PROGRAMME DE RECHERCHE

Holle Grünert
Burkart Lutz

Résumé

L'article analyse les bouleversements qu'a connu l'Allemagne de l'Est, passant d'un système scolaire étroitement planifié dans lequel chaque adolescent était orienté vers des filières scolaires et professionnelles extrêmement strictes, à un système plus souple, laissant aux individus plus de liberté mais aussi plus d'incertitude quant à leur avenir professionnel. Désormais, les jeunes peuvent décider de s'orienter vers une formation professionnelle ou une formation générale et ils sont libres de choisir le métier qu'ils entendent exercer plus tard, compte tenu de leurs ambitions et de leurs compétences.
- Les perspectives professionnelles sont soumises à des variations fortes selon les niveaux de formation initiale et les diplômes obtenus.
- Personne n'a une vision claire de quelles sont les formations qui préparent à un avenir professionnel enviable.
Les jeunes et leurs parents sont donc confrontés à des choix pour lesquels ils ne disposent pas de l'information adéquate.
- Face à ce sentiment d'insécurité générale, la tendance la plus commune semble être de tenter de rester dans le système éducatif aussi longtemps que possible et d'opter pour les formations générales au détriment des formations professionnelles.
Quant aux employeurs, ils réagissent à cet état de fait en évitant le plus possible de recruter du personnel nouveau et en se cantonnant à des pratiques de gestion des ressources humaines hybrides, voire contradictoires.
L'article distingue trois sous-ensembles sur le marché du travail, correspondant à des niveaux d'insécurité différents. Il propose trois volets pour une nouvelle recherche :
1. Une analyse précise des attitudes des jeunes et des employeurs concernant la formation et l'emploi.
2. Une analyse des interactions dynamiques entre les stratégies des jeunes et celles des employeurs.
3. Une analyse comparée avec d'autres pays post-socialistes.

Abstract

The School to Work Transition in Eastern Germany after Reunification: Some Proposals for a Research Project

This paper analyses the shift experienced by East Germany, from a strictly planned schooling system (where teenagers were assigned very precise schooling and occupational tracks) to a more flexible system, involving more freedom but also more insecurity, including joblessness: nowadays, young people can freely choose between general and vocational education and prepare themselves for whatever occupation they may want, considering their ambition and competence.
- Occupational prospects may vary a great deal, according to initial training and degrees passed.

- No one has a clear view of which vocational tracks or degrees lead towards rewarding jobs. Therefore, both young people and their parents have to make decisions under conditions of imperfect information.
- Remaining in school as long as possible and choosing basic education as opposed to vocational education seems to be a consequence of this high general feeling of insecurity.
Potential employers react to this by avoiding to hire new employees and sticking to ambiguous human relations practices. Three different segments in the labor-market can be identified, corresponding to different levels of job insecurity. The paper includes a proposal for a new research project:
1. A minute analysis of young people's and employer's attitudes concerning employment and training issues.
2. An analysis of dynamic interactions between young people's and employer's strategy.
3. A comparison with other post-socialists countries.

1. LA SITUATION DE DÉPART : UNE FORTE RÉGLEMENTATION DE LA TRANSITION ÉDUCATION - EMPLOI EN RÉGIME SOCIALISTE

En RDA (République démocratique allemande), comme dans tous les pays du socialisme "réellement existant", la "reproduction de la force de travail sociale" ("Reproduktion des gesellschaftlichen Arbeitsvermögens") faisait - au moins idéalement - partie intégrante du développement planifié de l'économie et de la société. La transition éducation - emploi était donc fortement réglementée et encadrée par une orientation scolaire et professionnelle précoce et quasi omniprésente, commençant dès la sixième année scolaire. Les pouvoirs publics se sont efforcés d'assurer un comportement éducatif et des choix professionnels correspondant au maximum aux besoins actuels et futurs de l'économie. En contrepartie, les jeunes étaient assurés d'être aiguillés réellement vers des filières de formation prêtes à les recevoir et vers des emplois correspondants à leur formation.

Les entreprises, pouvant compter sur la "fourniture" ("Zuführung" était le terme officiel en RDA) régulière de jeunes à partir des écoles locales, étaient surtout soucieuses de tirer le maximum des jeunes que les autorités territoriales mettaient à leur disposition selon les objectifs du Plan.

Il semble bien que, nulle part, ce système ait pu se mettre en place de manière parfaite ; il existait en particulier des marges - sans doute variables dans le temps et entre les différents pays socialistes - permettant à certains jeunes et à certaines entreprises de réaliser leurs préférences particulières à l'encontre des objectifs du Plan. Mais, le système fonctionnait : les jeunes - garantis contre tout risque de non emploi - s'efforçaient de s'arranger au mieux avec les formations et les perspectives d'emploi qu'on leur imposait, quitte à faire jouer au besoin des relations sociales, surtout familiales ou en louvoyant sur les marges de la légalité. Et seulement quelques entreprises renommées, disposant d'une influence politique particulière avaient la possibilité d'attirer vers elles les meilleurs des jeunes diplômés.

Il est évident que ces structures ont fortement marqué à la fois les schémas de comportement des jeunes, des familles et des enseignants et la pratique de ce qu'on appelle, à l'Ouest, la gestion des ressources humaines dans les entreprises.

La grande majorité des jeunes a, semble-t-il, accepté comme une donnée naturelle le fort encadrement de leurs choix scolaires et professionnels.

En RDA du moins, cette acceptation était facilitée par la très faible différenciation des chances sociales et professionnelles (visibles), liées aux différentes formations : salaires et conditions de travail ne variaient pas considérablement entre les ouvriers professionnels (favorisés par exemple par la fiscalité) et la majorité des diplômés d'université ; et le système d'enseignement offrait de multiples possibilités d'obtenir des diplômes scolaires ou universitaires en formation continue - soit par correspondance ou dans des cours du soir, soit en étant "délégué" à des études à plein temps par l'entreprise.

Ceci explique en particulier le fait qu'en RDA, l'expansion scolaire a été beaucoup plus lente que dans tous les autres pays industrialisés ; dans les années 70, les autorités

ont même réussi le tour de force de réduire considérablement et en peu de temps l'accès au lycée sans déclencher des résistances visibles. Dans d'autres pays socialistes, en revanche, sont apparues depuis les années 60 ou 70, des structures fortement méritocratiques, c'est-à-dire une forte corrélation entre inégalité sociale et niveau d'éducation.

Les *employeurs*, c'est-à-dire les entreprises (qui, en règle générale, faisaient partie du "Kombinate" mais étaient toujours les partenaires juridiques du contrat de travail), dans le système d'allocation planifiée de la main-d'œuvre ne disposaient pas d'une grande marge de manœuvre pour formuler et faire valoir des intérêts spécifiques de gestion des ressources humaines ; mais elles n'étaient nullement obligées, comme les employeurs en économie de marché, de développer et d'appliquer des politiques et des pratiques propres en matière de recrutement et de formation de leur main-d'œuvre.

Les organigrammes, les schémas de postes et d'effectifs, le nombre et la qualification des travailleurs nécessaires pour atteindre les objectifs fixés étaient certes négociés dans la préparation du Plan mais finalement imposés d'en haut. En RDA, qui s'était dotée au fil des années (et sous l'influence de la République fédérale allemande - RFA concurrente) d'un droit de travail très favorable aux travailleurs, il était interdit aux entreprises (sauf exceptions très rares motivées par des intérêts politiques majeurs) de publier des offres d'emplois pour trouver la main-d'œuvre dont elles avaient éventuellement besoin (par contre, les demandes d'emploi étaient toujours admises dans les quotidiens, bien qu'elles aient été plus ou moins faciles à placer selon les moments). La formation initiale et continue demandait certes la participation active des entreprises, mais toujours sous la surveillance étroite des pouvoirs publics (qui imposaient par exemple des "Plans de cadres", c'est-à-dire le nombre de travailleurs à envoyer en formation continue) et selon des prescriptions - "indicateurs normatifs" - de plus en plus détaillées.

La seule marge d'action dont disposaient les entreprises en matière de gestion des ressources humaines, elles devaient l'utiliser essentiellement pour renforcer les liens d'attachement de leur personnel à l'entreprise - tout à fait selon la logique classique des "marchés du travail internes". L'intérêt propre des entreprises et les fortes incitations d'en haut allaient dans le même sens. Les ressources des entreprises pour renforcer l'attachement de leurs travailleurs et pour endiguer le *turn-over* (véritable bête noire des planificateurs) n'étaient pas négligeables : des service sociaux et médicaux, des centres de vacances, etc.

2. LE CHOC DE LA RÉUNIFICATION : LIBERTÉ, INSÉCURITÉ ET NÉCESSITÉ D'APPRENTISSAGE SOCIAL

En RDA, beaucoup plus que dans tous les autres pays post-socialistes, le système socialiste dans son ensemble s'est écroulé pratiquement d'un coup. Entre les premières élections libres de mars 1990, amenant au pouvoir une coalition copiée sur le modèle de Bonn et faisant largement appel aux conseillers du gouvernement fédéral, la réalisation de l'unité économique et monétaire au début du mois de juillet et l'intégration politique le 3 octobre, il s'est passé tout juste six mois. Pendant cette période, pratiquement toutes les institutions et structures de gestion et de régulation de la RDA ont été liquidées et remplacées par celles de l'Allemagne fédérale.

Les résultats économiques de cette thérapeutique de choc sont connus : environ 4 des 9,8 millions d'emplois de 1989 disparus ; des pans entiers de l'industrie rasés ; une bonne partie de l'ancienne élite politique, administrative, intellectuelle et économique mise plus ou moins provisoirement au chômage, etc. Ces effets dévastateurs, les moyens financiers gigantesques nécessaires pour les amortir, sinon les prévenir, et les signes plus ou moins timides de "reprise" ont pendant longtemps dominé les discours politiques et l'agenda de recherche.

Les conséquences plus profondes de ce transfert subit de tout un système d'institutions et de régulations, les tensions, conflits et déséquilibres qu'elles peuvent engendrer et les formes sociales d'apprentissage induites n'apparaissent que lentement. C'est dans cette perspective que nous préparons actuellement un programme de recherche dont l'objectif sera d'observer et d'analyser deux de ces conséquences et leurs interactions qui se trouvent à l'intersection entre éducation et vie active, entre système éducatif et ce que l'on appelle souvent - un peu rapidement - "système" d'emploi.

La première conséquence concerne les choix scolaires et professionnels des jeunes ; la deuxième, les modèles de comportement des employeurs.

Nous nous proposons dans une première phase d'étudier les évolutions de ces deux domaines en Allemagne de l'Est - où les processus de déstabilisation sont certainement les plus avancés. Mais nous espérons pouvoir inclure dans une deuxième phase au moins deux autres pays "post-socialistes", dont l'un devrait avoir une structure sociale et économique encore largement agricole, l'autre très développée (comme en République Tchèque).

Par ailleurs, nous sommes convaincus du fait que l'intérêt des résultats escomptés ne se limitera pas aux seuls pays post-socialistes et à un moment historique très spécifique. Cette configuration particulière de transformation de tout un système sociopolitique révèle des processus d'apprentissage social - d'un part dans les familles, les différents milieux sociaux, d'autre part dans le monde des entreprises - et des interactions entre les uns et les autres qui sont présentes dans tous les sociétés modernes, mais accessibles aux chercheurs seulement aux moments de crises ou de ruptures.

3. LES JEUNES : COMMENT PRENDRE RAPIDEMENT LES DÉCISIONS RATIONNELLES DANS UNE SITUATION D'INCERTITUDE EXTRÊME ?

Avec la mise en place pratiquement instantanée des institutions occidentales après l'écroulement du système socialiste, le système scolaire s'est rapidement ouvert et - selon le modèle ouest-allemand - fortement différencié. Les jeunes et leurs parents se trouvent maintenant dans une situation fondamentalement différente, par rapport au passé, au moins sur trois points :

(a) les jeunes ont la possibilité de choisir librement - dans les limites de leurs capacités et de leurs ambitions - entre toute une gamme de voies de formation, de la

combinaison classique école obligatoire - apprentissage jusqu'au baccalauréat et des études universitaires ;

(b) les bouleversements dans les structures d'emploi mettent en évidence que les perspectives d'emploi et de carrière peuvent varier très fortement et qu'elles dépendent largement de la formation initiale et des diplômes obtenus ;

(c) mais personne ne peut dire quels sont concrètement les formations et les diplômes vraiment prometteurs.

Les jeunes et leurs parents se trouvent, par conséquent, devant un double défi :

D'une part - après des décennies de mise en tutelle étroite - la société les rend entièrement responsables du choix de leur chemin scolaire et professionnel. La logique d'une société ouverte et d'une économie de marché se combine avec la grande désorientation de beaucoup d'enseignants qui apparemment n'osent plus, même s'ils en avaient encore les moyens, orienter sérieusement leurs élèves (d'autant moins que la chute dramatique de la natalité depuis 1990 commence dès maintenant à menacer leurs emplois).

D'autre part, les jeunes et les familles doivent prendre ces décisions dans une situation d'incertitude extrême, consécutive à des bouleversements profonds. Cette incertitude n'est pas seulement conjoncturelle et passagère, elle est aussi structurelle : la société est-allemande ne dispose plus de modèles éprouvés de comportement rationnel en matière de choix scolaires et professionnels ; la plupart des expériences passées - de réussite ou d'échec - ont été dévalorisées et le marché du travail ne donne que des signaux faibles et apparemment très peu fiables.

Les données statistiques montrent que le comportement des jeunes est actuellement régi par un double souci : rester le plus longtemps possible à l'école, ce qui entraîne surtout une très forte poussée vers les lycées et des diplômes scolaires du type baccalauréat ; accumuler les chances et les "atouts" éventuels. Au niveau des choix professionnels, ce comportement est marqué par la multiplication des "essais et erreurs". Ainsi l'accroissement considérable du nombre de bacheliers depuis 1993 n'a pas (encore) entraîné une augmentation équivalente du nombre d'étudiants, mais est en train de boucher pour les non-bacheliers une bonne partie des filières de formation professionnelle (dont la capacité d'accueil serait déjà très insuffisante face aux jeunes non-bacheliers) ; mais il est tout à fait possible que d'ici peu de temps une forte vague de nouveaux étudiants se déverse sur les universités, etc.

Il est évident que cette situation devient d'autant plus instable et le comportement d'autant plus erratique que le bon chemin vers l'emploi reste invisible.

4. LES EMPLOYEURS : PEU D'EMBAUCHES ET DES PRATIQUES DE GESTION DES RESSOURCES HUMAINES HYBRIDES, VOIRE CONTRADICTOIRES

En Allemagne de l'Est, il est peu probable que le marché du travail donne prochainement des signaux clairs qui permettraient aux jeunes d'orienter leurs choix

scolaires et professionnels. Cette affirmation peut s'appuyer sur des analyses récentes du marché du travail, de la structure d'emploi dans le territoire de l'ancienne RDA et des perspectives d'évolution des principaux paramètres d'action des employeurs.

Ces analyses suggèrent - en se référant à la théorie de la segmentation du marché du travail - l'existence de trois grands segments d'emploi.

1) Un premier segment regroupe la grande majorité des employeurs publics et semi-publics, surtout la fonction publique et les entreprises publiques, et les entreprises industrielles restantes d'une certaine taille. Ce segment qui regroupe au moins deux cinquièmes des emplois, reste fortement marqué par trois facteurs :

- la continuité d'une forte tradition d'internalisation des politiques et des pratiques du travail et de l'emploi, souvent renforcée par le transfert de règlements légaux et/ou contractuels ouest-allemands de protection de l'emploi ;

- des perspectives d'emploi peu favorables, toujours dominées par des contraintes de baisse d'effectifs et ne laissant prévoir que très peu d'embauches liées à la croissance ;

- une structure d'âge des effectifs "mutilée" par la mise à la retraite anticipée de la totalité des classes d'âge nées avant 1939 et interdisant au moins jusqu'à la fin du siècle toute embauche de substitution démographique.

En d'autres termes, ce segment est pratiquement fermé aux jeunes et le restera au moins pour quelques années.

Ceci est particulièrement grave pour deux raisons : d'une part ce segment contient la majorité des employeurs grands consommateurs de diplômes de l'enseignement supérieur comme par exemple l'enseignement et l'administration publique. D'autre part, les entreprises et organisations qu'il regroupe jouent dans les traditions et structures ouest-allemandes (transférées sans changements en Allemagne de l'Est après 1990) un rôle quantitativement et surtout qualitativement très important pour le fonctionnement du système "dual" de formation professionnelle.

Les seuls signaux qui émanent et émaneront de ce segment incitent plutôt les jeunes à rester dans le système de l'enseignement et d'y accumuler les formations et les diplômes - selon un schéma typiquement "méditerranéen".

2) Un deuxième segment - que l'on pourrait appeler "professionnel" - regroupe une bonne partie des seuls secteurs et branches dont l'emploi a fortement augmenté au début des année 90, en particulier l'artisanat, le bâtiment et les PME industrielles.

Les entreprises de ce segment - très sous-développées en régime socialiste - se sont reconstituées essentiellement selon un modèle très professionnel avec une main-d'œuvre généralement qualifiée. En Allemagne de l'Ouest, les entreprises de ce type forment traditionnellement beaucoup de jeunes en apprentissage, souvent nettement plus que ce qui correspondrait à leurs besoins directs. En Allemagne de l'Est en revanche, la revitalisation de l'apprentissage classique (remplacé par un système

nettement plus scolaire, mais abandonné presque partout après 1990) ne s'est pas bien faite.

Les raisons sont multiples :

Tout d'abord, le déclin rapide de l'industrie a mis sur le marché du travail une grande masse d'ouvriers professionnels, dont bon nombre sont passés par des formations de reconversion vers le secteur public ou parapublic. Ainsi ces entreprises (qui souvent venaient d'être créées) trouvaient de quoi embaucher rapidement sans former elles-mêmes, pour satisfaire les besoins initiaux en main-d'œuvre professionnelle.

Depuis 1992/93, la croissance de ce type d'entreprises s'est considérablement ralentie ; beaucoup d'entre elles ont de grosses difficultés pour survivre et ne veulent guère prendre encore en charge des apprentis.

Même si les traditions du travail artisanal sont restées assez vivantes en RDA, les pratiques d'apprentissage se sont largement perdues.

Enfin, la mise en place des institutions externes aux entreprises, mais nécessaires au fonctionnement d'un système professionnel, des chambres consulaires jusqu'aux milieux associatifs, prend beaucoup plus de temps qu'on ne le pensait au moment de la réunification.

Ainsi la majorité des entreprises de ce segment semble se trouver dans une situation hybride : elles ont bien opté pour un modèle classique de production et d'organisation professionnelle mais sans vouloir et pouvoir contribuer activement à l'émergence des structures externes nécessaires pour que ce modèle puisse fonctionner. Les signaux qui émanent et émaneront de ce segment ne sont pas très forts et assez contradictoires.

3) Un troisième segment est constitué par la majorité des entreprises du commerce et des services. Dans ce segment, les tendances de précarisation de l'emploi sont fortes et l'émergence d'un marché du travail du type "secondaire" est visible. Les entreprises utilisent à la fois la pression exercée par le taux de chômage élevé et les ressources constituées par l'expérience et la compétence professionnelles qu'une bonne partie de la main-d'œuvre, aujourd'hui contrainte d'accepter n'importe quel travail, a pu accumuler dans leur emploi avant 1990.

Les signaux émanants de ce segment sont très clairs mais ne contribuent certainement pas à stabiliser et à régulariser les choix scolaires et professionnels des jeunes.

5. DES PERSPECTIVES DE RECHERCHE

Ces quelques réflexions ouvrent toute une série de perspectives de recherche - limitées d'abord à l'Allemagne de l'Est, puis élargies à d'autres pays post-socialistes (ou les changements semblent nettement plus lents). Nous envisageons un programme de recherche en trois parties :

1) Une première partie *observera de très près* - en combinant l'analyse des statistiques officielles avec des enquêtes plus ciblées - *l'évolution des comportements des jeunes et des entreprises.*

Chez les jeunes, on cherchera à savoir si :

L'amplitude des boucles de recherche-erreur pour trouver la meilleure voie vers l'emploi va diminuer ou augmenter ? Comment perçoivent-ils le comportement des entreprises ? Y-a-t-il déjà de nouveaux modèles de comportement rationnel émergents ?

Du coté des entreprises, on sera obligé de différencier selon les segments :

Combien de temps les entreprises du premier segment pourront-elles négliger le vieillissement simultané de pratiquement tous leurs effectifs et la rupture d'échanges avec le marché du travail externe ? Et comment vont-elle réagir ? Quelles sont les ressources internes et externes qu'elles pourront mobiliser ? Et comment vont-elles faire pour attirer les jeunes ?

La situation hybride des entreprises du deuxième segment peut-elle se prolonger longtemps ? Dans quelle direction la majorité des entreprises va-t-elle évoluer ? Quelles sont les conditions d'une stabilisation du modèle professionnel selon la tradition (ouest) allemande ? La pesanteur du sous-emploi et la proximité d'une main-d'œuvre très bon marché à l'Est donneront-elles lieu à une précarisation généralisée même dans certains des secteurs artisanaux classiques ?

2) Une deuxième partie tentera d'*analyser les interactions entre le comportement des jeunes et celui des entreprises et leurs évolutions*, l'influence de l'un sur l'autre, les mécanismes de feed-back positifs ou négatifs qui s'établissent et les déséquilibres - ou nouveaux équilibres - qui peuvent surgir.

Cette partie devra également considérer la réaction de la politique éducative et des autorités scolaires face à ces déséquilibres :

Observera-t-on le retour à une orientation plus "musclée" ou un laisser-aller généralisé ? Plus ou moins de sélection ? Ou une plus forte différenciation de la sélectivité des filières ? Quelle sera la structure de l'offre future des jeunes sur le marché du travail qui résultera de l'influence combinée du comportement des jeunes et des autorités scolaires - en terme de compétences, mais aussi en terme d'exigences et de motivation ? Et quelle sera la réaction des entreprises face à cette offre ?

3) Une troisième partie devra *élargir l'horizon au-delà de l'Allemagne de l'Est* :

Les évolutions et les problématiques observées et analysées dans le territoire de l'ancienne RDA constituent-elles un cas tout à fait particulier ou préfigurent-elles ce qui va se passer d'ici quelques années dans d'autres pays post-socialistes ? Quelles sont les leçons que ces derniers pourraient tirer de l'expérience est-allemande ?

Cette troisième partie du programme de recherche envisagé - dont la conception est encore assez floue - devra apporter des résultats d'un intérêt plus général.

La récente étude du CEDEFOP animée et coordonnée par le LIHRE à Toulouse a clairement démontré la grande stabilité des structures héritées du passé. Sur cette toile de fond, l'évolution en l'Allemagne de l'Est et dans d'autres pays post-socialistes, constitue une occasion unique d'analyser une déstabilisation sans précédent historique, en amont comme en aval de la transition de l'éducation vers l'emploi.

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HISTORY DEPENDENCE IN YOUTH UNEMPLOYMENT

Torild Hammer

Abstract

This article presents a theoretical model to explain recurrent periods of unemployment from youth to adulthood. The data are based on a longitudinal study of a representative sample of nearly 2 000 young people in Norway who participated in a survey in 1985 and were followed up again in 1987, 1989 and 1993. The Central Bureau of statistics in Norway has been responsible for the collection of data.

The results showed that the previous spells of unemployment were the strongest predictor of later periods of unemployment. Recurrent periods of unemployment can be explained by structural, cultural and individual factors. Structural features of the labour market such as branch, temporary work contracts, position in the labour market and seasonal work were important factors. Affiliation to drug-using subcultures as well as mental health and motivation for work also had an impact on the risk of successive periods of unemployment. However, multivariate analysis showed that structural variables regarding employment branch and working conditions were more important than individual problems. The data have been analysed for each period of follow up, applying logistic regression. The full model has been tested by Poisson regression, using a multiplicative model.

Résumé

Chômage passé et chômage en cours chez les jeunes

L'article présente un modèle explicatif des épisodes de chômage récurrent chez certains adultes depuis leur adolescence. Les données proviennent d'une enquête longitudinale portant sur un échantillon représentatif de près de 2 000 jeunes norvégiens qui ont été interrogés une première fois en 1985 avec réinterrogation en 1987, 1989 et 1993 par le Bureau statistique national.

Les résultats indiquent que les épisodes de chômage antérieur sont un prédicteur majeur des périodes ultérieures de chômage pour un individu donné. On peut expliquer ces périodes de chômage récurrentes par un ensemble de facteurs structurels, culturels et individuels. Les caractéristiques structurelles du marché du travail comme la branche d'activité, le contrat de travail à durée déterminée, la position sur le marché du travail et le recours au travail saisonnier sont autant de facteurs dont l'importance est mise en évidence. L'appartenance à des milieux soumis à la drogue, la santé mentale et le rapport à l'emploi sont aussi des facteurs qui ont un impact sur le risque de connaître des épisodes répétés de chômage. Néanmoins, l'analyse multivariée montre que les facteurs structurels tels que la branche et les conditions de travail sont prépondérants par rapports aux facteurs individuels. Pour chaque vague d'enquête, on a procédé à une régression logistique. Le modèle a été testé en utilisant une régression de Poisson.

In an international perspective, the unemployment rate in Norway is relatively low, about 6 % (OECD, 1993). However, unemployment in young people is three times as high as in the adult population (i.e. about 14 %) (Norwegian Statistics, 1993). 30 % of the unemployed group are under 25 years of age.

The rise in youth unemployment during the late 1980s and the beginning of the 1990s has led to an intensive political discussion about the consequences of such a development. Will the high rate of unemployment imply marginalisation and exclusion of large groups of Norwegian youth, who will never become properly integrated in working life? Do periods of unemployment have long-term effects on young people's future careers in the labour market?

Some findings seem to indicate that this is not the case. Firstly, long term unemployment (longer than 6 months) is less frequent in the youth group than in older age groups in the labour force. Secondly, longitudinal analyses have shown that, so far, there has been very little total exclusion of young people from the labour market (Hammer, 1994). Young people wander in and out of the labour market, periods in a job are interspersed with periods of unemployment, labour market programmes, and education.

On the other hand, previous unemployment greatly increases the risk of later unemployment, independent of intervening periods of work (Hammer, 1993 and 1994). This kind of history dependence in unemployment has been documented in several international studies (Andress, 1989; Pedersen and Westgard-Nielsen, 1984; Sprengers, 1992), and also in special studies of youth unemployment (Lynch, 1989; Narendranathan and Elyas, 1993). A newly published OECD report contains a review of panel studies on unemployment carried out during the last 10 years. The report documents strong evidence of history dependence in unemployment. However, it is difficult to know whether the strong history dependence is a consequence of unemployment or of heterogeneity "... where some individuals are permanently sorted out to carry a heavy burden of unemployment in a sequence of periods while others are permanently in a state of full employment" (Pedersen and Westgard-Nielsen, 1993, p.78). According to longitudinal analyses of register data in the Danish labour market, the distribution of unemployment is very skewed. Half of those who were totally excluded from the labour market during the 1980s were younger than 30 years of age, and 10 % of them accounted for one third of the total volume of unemployment (Ploug, 1990). In other words, history dependence in unemployment may be due to the consequences of unemployment, selection effects or both.

The current literature is very sparse as regards development of models which try to explain history dependence in unemployment as a social phenomenon. In a sociological perspective such a model would need a theoretical framework based on both structural, cultural and individual levels of explanation. We shall outline some major theoretical arguments for such an integrative approach.

1. STRUCTURAL EXPLANATIONS

Recent years have been characterised by greater mobility in the labour market, with only temporary or contingent employment and higher flexibility and fragmentation (Boje and Olsson Hort, 1993). This development has been particularly noticeable

during the 1980s. Such changes have enhanced the capacity of OECD labour markets to adjust to structural change, but have also made some workers more vulnerable (OECD, 1991). Temporary work contracts are much more widely used among young people than among older workers (Rasmussen, 1993). Thus, the mobility of young people has increased. Various surveys have shown that 5 % of young people with a low level of education reported having had more than four changes of job in 1980, as against 31 % in 1991 (CBS, 1980 and 1991).

A lot of research has documented that working class youth with a low level of education run the highest risk of unemployment (Hammer, 1993). Indeed, the relationship between low education and risk of unemployment has become stronger during the last 10 years, indicating stronger selection effects in times with high unemployment (OECD, 1990; Petersen and Mortimer, 1994). Young people with a low level of education are more dependent upon internal on-the-job training to be able to increase their skills and employability. However, temporary work contracts probably imply less investment by enterprises, which in turn implies a lower level of accumulation of skills in the long term. Less investment in human capital is probably also a consequence of a working career with several spells of unemployment. Analyses of the Norwegian labour market have shown that the secondary labour market is characterised by unstable working careers, with high mobility between dead-end jobs, low pay and a low degree of union membership (Colbjørnsen, 1986). Recent analyses in international research seem to find less barriers and more mobility between different segments than previously assumed (Petersen and Mortimer, 1994), although, analyses of young people's entry into the labour market and their careers, suggest that this is dependent on what segment of the labour market they enter (Ashton and Sung, 1991; Ashton et al., 1990). However, there is little evidence to support a strict age structuring of the labour market. Youth and adult labour markets also display a considerable degree of overlap (Furlong, 1990). On the other hand, the youth labour market which is dominated by young people with low education, is strongly segregated according to gender as in most other west European countries (Kerckhoff, 1990). The working careers of males and females may be influenced by different labour market structures. It is therefore important to analyse males and females separately. History dependence in unemployment in women may also be a result of their dual career, related both to the labour market and to family obligations. Earlier research has shown that previously unemployed women more often choose to stay at home with children as an alternative to applying for work (Hammer, 1994). This may imply that the distinctions between unemployment and staying at home with children become blurred and difficult to sort out. Furthermore, analyses of young women's careers in the labour market have shown an even higher proportion in low- skilled work, temporary work contracts (Rasmussen, 1993) and high mobility (Kristiansen, 1989) among women than among men. However, the development of the labour market in the past 20 years in Norway with an expansion of the welfare state has created a lot of new jobs for women, giving a lower unemployment rate for them than for men.

In conclusion, history dependence in unemployment may be caused by structural features of the labour market, such as temporary work contracts and high mobility between dead-end jobs in the secondary labour market leading to a lower level of accumulation of skills.

2. CULTURAL EXPLANATIONS

The structural conditions of the labour market may force young people to frequent changes of jobs interspersed with periods of unemployment. On the other hand, young people's lifestyle may promote such working careers. They feel a need to try out different roles and positions during a moratorium period with no financial obligations or family responsibilities (Osterman, 1979). However, longer periods of unemployment can also in themselves affect young people's lifestyle and behaviour. Unemployed youth may develop different subcultures on the fringe of society. Such subcultures may develop and promote deviant behaviour related to substance abuse, small-scale criminality, and work in the black economy. A lot of research has documented higher criminality and illegal drug use among unemployed young men (Hammer, 1993; Hartnagel and Krahn, 1989). Longitudinal studies have shown that the relationship between unemployment and drug use is caused by strong selection effects, especially among men. However, unemployment probably leads to increased marginalisation of young drug users, with a stronger identification into and joining deviant subcultures, which leads to increasing drug use (Hammer, 1992). Such environments may develop attitudes towards work and obligations which are in opposition to those of adult society. Several studies have documented higher alienation among unemployed youth (Winefield et al., 1991), and greater distance to and distrust of authority, as measured by the youth centrism scale (Hammer, 1994). Successive periods of unemployment may therefore also be explained by reproduction of norms and values in subcultures leading to little investment in work, stability and the traditional way of life (Carle, 1987).

3. INDIVIDUAL EXPLANATIONS

It is well known that a low level of education gives a high risk of unemployment. Whether low education gives a higher risk of recurrent periods of unemployment is another question. I have argued here that this may be the case because of labour market structures. However, adjustment at school may be a better measure, since drop out from school is a stronger predictor of youth unemployment than level of education in itself (Hammer, 1992). Furthermore, avoiding dropping out of school in spite of difficulties may be related to several personality factors of importance for an ability to endure and adjust to a steady job.

Another strong predictor of unemployment is mental health. Many international studies have also documented an increase in mental health problems among young people as a consequence of unemployment (Banks and Ullah, 1988; Winefield et al., 1993; Ullah et al., 1985; Hammer, 1993). Chen et al. (1994) found that, both in males and females, those who experienced successive unemployment periods reported more emotional difficulties than those with only one spell of unemployment. Mental health problems may be related to job satisfaction and general well-being, which in turn may influence job stability over time and consequently the risk of unemployment.

To sum up, several theoretical hypotheses based on different levels of explanations are relevant to the study of history dependence in unemployment. We'll use longitudinal data from nearly 2 000 young people followed up over a period of 8 years, from youth to adulthood to study history dependence and risk of

unemployment. The sample was followed up by postal surveys in 1985, 1987, 1989 and 1993.

Here, we'll analyse their working career, by studying how the conditions of their current work situation influence risk of later unemployment. The question is how subsequent unemployment is related to previous unemployment when the structural, cultural and individual explanations discussed here are taken into account.

4. METHOD

Every fifth year, the Central Bureau of Statistics in Norway carries out a national survey of young people's adjustment to school and work (Youth Survey). From the 1985 material, covering the 17 to 20 years age group (n=5.689), we extracted a sample (n=1997), stratified according to the young people's reported main occupation. Stratification was performed in such a manner that those who were neither studying nor in employment in 1985 were selected with the highest probability of (1) (n=394), the employed group were selected with a probability of (0.70) (n=800), while those who were studying were selected according to the lowest probability of (0.25) (n=801). The oversampling of unemployed or young people in employment in 1985 was done to secure a high percentage of youth in the sample with a high risk of unemployment and at the same time keeping the costs low.

The stratification variable was controlled for in every analyse. When the stratification variable had no significant impact, it was not included in the result. When the stratification variable did have a significant impact or a significant interaction effect on the dependent variable, this is reported.

The response rate from the first postal survey (1985) was high (85 %). The attrition (15 %) was somewhat distorted in relation to level of education implying higher attrition among those with a high or a low level of education. However, this was partly compensated for by supplementing with information from personal interviews.

A second postal survey was carried out in the same sample by the Central Bureau of Statistics two years later (1987), a third in 1989, and a fourth in 1993. A sample of the non-respondents were personally interviewed at each follow up. The total response rate was 80 % in 1987, 74 % in 1989 and 73 % in 1993, with 54 % of the stratified sample participating in all four surveys (n=1,084). The attrition for each year of follow up was higher among those who were unemployed at the time of interview than among the rest of the sample. From 1985 to 1993 the non-response rate was 32 % among the unemployed, compared with 25 % among those in employment. From 1987 to 1993, 24 % of the unemployed did not answer the questionnaire, as compared with 15 % of those in employment. The results were the same from 1989 to 1993. However, this problem is to some extent compensated for by the sampling procedure, which implied an oversampling of persons outside education and the workforce in 1985.

Interviews of the non-respondents to the postal surveys, in 1987, 1989 and 1993 did not differ significantly from the answers obtained in the postal surveys regarding age, sex or place of residence.

All four surveys were conducted primarily as questionnaire surveys. The 1985 survey included questions about parent's background, the young person's adaptation to

school, work and health problems (approximately 100 questions). Additional questions in the second (1987), third (1989) and fourth surveys (1993) included more detailed questions on unemployment and adjustment to work. A sample of the non-respondents were interviewed personally by telephone (n=183, in 1985, n=119 in 1987, n=108 in 1989).

In this article, we have used the following measurements and indices:

- All questions concerning education and work adaptation have been extracted from the 1985 Youth Survey (Ungdomsundersøkelsen), designed in accordance with earlier surveys.

- Social class was measured according to father's occupation (cf. Skrede's index for classification of social groups, 1971). Where information on father's occupation was lacking, for example in the event of just the mother raising the subject, the mother's education was used instead (n=166).

- Unemployment was measured in the first survey (1985) by total months of unemployment after compulsory school. In addition, unemployment was measured by number of weeks unemployed from 1985 to 1987, from 1987 to 1989, and from 1989 to 1993, number of unemployment spells, and by unemployment in last week at the time of the interview in each of the four surveys. A comparison of the unemployment rate in our study with the national survey of unemployment by The Central Bureau of Statistics (AKU), shows only small differences. Here, the unemployment rate is calculated as percent of the labour force. Using weighted estimates (based on the stratification variable) 4 % in our study were unemployed compared with 6.5 % in AKU in 1985, 6.8 % compared with 4.3 % in AKU in 1987, 15.6 % compared with 11.4 % in AKU in 1989 and 8.2 % compared with 7.1 % in AKU in 1993.

- Education was measured as number of years in education after compulsory school. In addition, detailed information on kind of education was reported at every follow-up using CBS standard classification of education (CBS, 1989). Information from the National Register of Education (CBS) from 1983 was merged to the 1985 Youth Survey by CBS. A detailed analysis of the attrition in this survey was carried out by CBS. Information from the same register in 1992 was also coupled with data on the whole sample.

- Mental health was measured in the second, third and fourth surveys by 10 questions from the Hopkins Symptom Checklist - SCL-23 (Derogatis et al., 1974) about anxiety and depression. These 10 questions were selected from the results of a factor analysis of a health survey of the same age group, where SCL-23 was used (The Central Bureau of Statistics Health Survey, 1985). We have used the sum score of the ten questions (Cronbach's alpha = 0.86). The index showed a high correlation with an additional independent question of severe mental health problems (yes/no) (r=0.48), indicating favourable validity.

-Affinity towards a drug using subculture is measured by an index of three questions about friends' frequency of drinking and illegal drug use during the last year.

- Position in the labour market was measured by the respondents' own evaluation of conditions for on-the-job training in their current employment, and by union membership. Those who reported both union membership and were satisfied with the opportunities for on-the-job training were operationalised as working in the internal labour market in a closed position (Osterman, 1979).

-Employment branch was measured by the Nordic Employment Classification on a three digit level.

- Working conditions were measured according to 12 questions from The Norwegian Level of Living Survey (CBS, 1983). The questions measured the respondents' own satisfaction with their current work situation with regard to working environment, working conditions, salary, on-the-job training and prospects for the future.
- Working stability was measured by number of months stayed in their current job in 1987, 1989 and 1993.
- Family situation (civil status, cohabitation, having children) and whether the respondents lived alone or with parents were measured in each survey.

The data have been analysed using both bivariate and multivariate techniques, and statistical analyses based on chi-square, t-test, variance analysis and logistic regression analysis in the SPSSX program. Count data models (bivariate Poisson models and Poisson regression) were applied to analyse the full model of panel data using the Egret programme.

5. RESULTS

In the following, we shall first analyse risk of ever becoming unemployed in each time period 1985 to 1987, 1987 to 1989 and 1989 to 1993 among those in work, in relation to previous unemployment, controlling for the different explanations discussed here. This strategy is chosen for different reasons. First, it is important to sort out differences between males and females over time. Second, approximately the same analyses over time will test the validity of the model and possibly time-dependent changes of the independent variables.

Table 1 shows the development of the unemployment rate over time in the study, and gives the distribution of the dependent variable in the following analyses.

Table 1
Proportion ever unemployed
in the periods 1985-1987, 1987-1989, 1989-1993
(by sex, among those in employment in respectively 1985, 1987 and 1989)

		1985-1987	1987-1989	1989-1993
In employment in 1985	men	15 %		
	women	14 %		
In employment in 1987	men		20 %	
	women		19 %	
In employment in 1989	men			24 %
	women			20 %

Table 2 shows risk of unemployment from 1985 to 1987, among males and females in work in 1985, 17 to 20 years old.

Table 2
Risk of ever being unemployed from 1985 to 1987
among males (n=272) and females (n=241) in work in 1985
(Logistic regression 1=unemployed)

	Men		Women	
	Coef.	Odds ratio	Coef.	Odds ratio
Age	-0.70***	0.50	-0.22 ns	0.8
Education numb. of years	-0.12 ns	0.88	-0.001 ns	1.0
School drop out=1	0.48 ns	1.6	1.36 ***	3.9
Previously unemployed numb. of months	0.51 ***	1.7	-0.22 ns	0.8
Nervous problems=1	1.76 **	5.8	0.48 ns	1.6
Working conditions index	0.26 ***	1.3	0.08 ns	1.08
Intercept	11.8		1.34	

ChiSquare=212.6
Df=265
p=0.99

ChiSquare=254.4
Df=234
p=0.17

* p< 0.05
** p< 0.01
*** p< 0.001

According to the table, the results are very different for males and females. This probably reflects the strong segregation of gender in the labour market in this age group. Previous unemployment is an important predictor of successive unemployment in men, but not in women. Further analyses of men and women together showed a significant interaction effect (coef.=1.3, t=2.1), implying significant sex differences in this respect. On the other hand, drop out from previous schooling has a much stronger effect in women than men.

Previous unemployment is measured here by the length of the unemployment period. However, a dummy variable "ever unemployed before" has nearly the same effect.

It is also interesting to note that mental health problems, age and working conditions had a significant impact upon risk of unemployment in men but not in women.

Other variables, such as marriage or having children, had no effect on risk of unemployment in either sex, and educational level had no significant impact, probably because of little variance in this age group.

However, when analysing only those who had been unemployed previously, level of education had a significant effect in males.

The strong effect of drop out from school in women, in table 2, probably reflects that this is a more marginal phenomenon in females. Adjustment problems in school are therefore related to personality factors that give a high risk of unemployment. These young people were in unskilled work, and it is interesting that both age and working conditions were related to risk of unemployment in men but not in women. Since the

rate of youth unemployment was rather low in Norway from 1985 to 1987, the results may reflect that unemployment among youth in during this period was primarily a drop out problem, implying that young people left their job if they were not satisfied rather than that they were laid off because of poor economy/economic recession.

In the next period from 1987 to 1989 the unemployment rate increased. Bivariate analyses of risk of unemployment among those in work in 1987 showed more or less the same picture for males and females. Drop out from previous schooling had no impact on risk of unemployment, neither had social class, family situation (marriage, children) or working conditions and salary in current job.

Table 3 shows risk of unemployment in this period among those in work in 1987 for males and females. Only variables which showed a significant effect in the bivariate analyses are included, except for age and educational level, which are factors that it is important to control for in multivariate analyses. Data from 1987 also enable us to control for variables of theoretical interest, such as position in the labour market (internal labour market) and degree of affiliation to drug-using subcultures.

Table 3
**Risk of ever being unemployed from 1987 to 1989
among males (n=356) and females (n=325) in work in 1987**
(Logistic regression 1=unemployed)

| | Men | | Women | |
	Coef.	Odds ratio	Coef.	Odds ratio
Age	-0.02 ns	0.98	-0.14 ns	0.86
Education numb. of years	0.10 ns	1.11	0.20 ns	1.22
Position in the labour market 1=internal	-0.60 ns	0.55	-0.68 ns	0.51
Previously unemployed numb. of months	0.08 ***	1.08	0.04 ***	1.04
Mental health index	0.06 *	1.06	0.14 ***	1.15
Friends drug use, index	0.14 ns	1.15	0.08 ns	1.08
Intercept	-2.44		-1.38	

ChiSquare=347,6   ChiSquare=331.0
Df=349   Df=318
p=0.51   p=0.30

* $p<0.05$ ** $p<0.01$ *** $p<0.001$

Table 3 shows that previous unemployment and mental health problems had the strongest impact on risk of unemployment both in males and females. Position in the labour market was nearly significant (t=1.55) independent of gender, and affiliation to a drug-using culture was near the significant level in males but not in females. In a multivariate analyses, including both men and women, these variables had a significant

impact when controlled for the sex difference, and there were no significant interaction effects.

The same analyses among only those who had been previously unemployed gave more or less the same results. The strongest effect on risk of unemployment was previous unemployment, measured as length of previous unemployment periods. However, in general, having ever been unemployed or not had the same effects.

Table 4 gives the same analyses for the period 1989 to 1993 among males and females in work in 1989.

Table 4
Risk of ever being unemployed from 1989 to 1993
among males (n=259) and females (n=267) in work in 1989
(Logistic regression 1=unemployed)

	Men		Women	
	Coef.	Odds ratio	Coef.	Odds ratio
Numb. of months in current job	0.04 ns	1.04	-0.02 ns	0.98
Age	0.04 ns	1.04	0.02 ns	1.02
Education numb of years	-0.22 **	0.8	-0.12 ns	0.88
Position in the labour market 1=internal	-0.86**	0.42	-0.64 ns	0.53
Previously unemployed 1=unemployed	0.86**	2.36	-0.16ns	0.85
Mental health index	0.10**	1.11	0.01ns	1.01
Friends drug use, index	0.18*	1.20	-0.10ns	0.90
Intercept	-3.3		-1.16	

ChiSquare=292.3
Df=288
p=0.41

ChiSquare=279.0
Df=271
p=0.35

* p<0.05
** p<0.01
***p<0.001

According to the table the theoretical model outlined in the introduction fits very well for males. Both structural, cultural and individual factors seem to predict risk of unemployment in men. Position in the labour market has a significant impact. However, other characteristics of their latest job, such as working conditions, working stability and salary were not significant. It is also important to stress that previous unemployment still had a strong impact on successive unemployment, and having ever been unemployed before had a stronger impact than duration of unemployment. The results imply selection effects which have not been controlled for in this model.

Interestingly, the model does not apply to women at all. Controlling for family situation such as marriage or having children does nothing to improve the fit of the model. Analysing both men and women in the same model, we found a significant interaction effect (coeff.=0.79, t=1.9), implying significant differences between men and women regarding the influence of previous spells of unemployment, in the same way as in table 2.

The question is whether these gender differences are caused by differences between males and females in labour market structure. Alternatively, the differences may be accounted for by the female traditional role of combining caring work for children in the home with employment. Having children clearly affects the working career of women. Analysing the risk of unemployment among women without children who were in work in 1989, previous unemployment from 1985 to 1987 or 1987 to 1989 did not influence risk of further unemployment. However, unemployment early in the teenage years (before 1985) was clearly significant (p<0.01). In the same way, previous measures of mental health (1987) were significant (p<0.05). The only positive factor related to their current work situation that seemed to protect against unemployment was the possibility of on-the-job training. The results seem to indicate that young women's first experiences in the labour market influence their further career in a different way than they do among men. This may be due to men's better chances of improving their position in the labour market through on-the-job training. In 1989 far more men than women reported possibilities for internal training (p<0.05). Previous research from the same study has found that young women who were unemployed before 1985 in their teenage years, were more likely to stay at home with children, both in 1987 and 1989, than those in employment or education (Hammer, 1994). However, early unemployment also seems to have important long-term effects among young women without children. The results seem to indicate that young women's first experiences in the labour market influence their further career in a different way than they do among men.

6. RECURRENT UNEMPLOYMENT FROM 1987 TO 1993

So far, the analyses have focused upon risk of ever being unemployed, in each time period. The results have documented a strong history dependence in youth unemployment. However, previous research has shown that the groups with high risk of successive spells of unemployment may be different from those with a long duration of unemployment (Andress, 1989). The last group being the classical target group of the labour market policy.

Therefore, we'll now analyse risk of recurrent unemployment (number of spells of unemployment). The previous analyses show that risk of unemployment in the first period with a low rate of unemployment (1985 to 1987) is mainly a drop out problem. The following analyses therefore focus upon recurrent spells of unemployment during the next six years (1987 to 1993), when the unemployment rate in Norway increased. Previous research about duration dependence in unemployment in Norway has found no dependence or a positive duration dependence (Aaberge, 1987a and 1987b). Hernæs and Strøm (1994) found, however, that this was dependent upon the unemployment benefit system. Those who received unemployment benefits had a positive duration dependence, while others had a negative duration dependence. In our data, we're not able to sort this out because we don't have information about this for each unemployment period.

We use an exponential model in Poisson regression. This is based on an assumption that the events (spells of unemployment) occur independently. Both in accordance with previous analyses and the theoretical arguments of history dependence the relative risk will be based on a multiplicative model:

$$\lambda_i = \exp(x_i\beta + \varepsilon_i)$$

where measures the unobserved heterogeneity. The measure for overdispersion in the model is calculated by

$$\Phi = \frac{1}{n-p}\Sigma\frac{(\gamma_i - \gamma_i)^2}{\gamma_i}$$

giving a measurement of the mean value of the squared difference between observed and predictive values in the model, leading to an adjustment of standard error in the model.

The following analyses are based on the group in employment in 1987, and the number of spells of unemployment the next six years. Table 5 gives descriptive statistics of some important variables used in the analyses.

Table 5
Descriptive statistics of dependent and independent variables
In employment in 1987 (n=562)

Dependent variable	min	max	mean	sd
numb. of unemployment spells 1987-1993	0	7	0.70	1.27
Independent variables				
Want to stay on in current job	0	1	0.53	0.50
Union membership	0	1	0.35	0.48
Working stability numb. of months	0	108	18.60	17.41
Satisfied with on-the-job training	1	4	2.28	0.98
Previous drug use	0	1	0.13	0.34
Alcohol use (cl/year)	0	5341	486	720
Health problems	0	1	0.72	0.45
Mental health problems index	10	34	13	3.75
Self-esteem index	8	30	15.6	4.95
Have children	0	1	0.09	0.28
numb. of unemployment spells before 1987	0	5	0.37	0.69
Mean duration of unemployment spells before 1987	0	60	1.62	6.04
Age (measured 1985)	17	20	18.80	1.10
sex	0	1	0.52	0.50
Education numb. of years after compulsory school	0	9	2.26	1.4

Table 6 shows the risk of unemployment spells among persons in work in 1987 in accordance with the model, as bivariate analyses in males and females.

Table 6
Spells of unemployment in the next six years
among males (n=333) and females (n=309) in work in 1987
(Bivariate analyses, Poisson regression)

	Men Coeff.	Women Coeff.
Want to stay on		
in current job=1	-0.27 ns	-0.66 **
Not union membership=1	0.50 **	0.34 **
Working stability		
numb. of months	-0.02 **	-0.014**
Internal training=1	-0.15 *	-0.14 *
Working conditions	0.02 ns	0.31 **
Stratification variable $		
in employment=1	-0.02 ns	-0.16 ns
unemployed=1	0.50 **	0.54 **
Drug use =1	0.49 *	0.42 **
Alcohol use (cl/year)	0.0004 ***	0.00001 ns
Health problems=1	0.84 ***	0.32*
Mental health		
problems index	0.08 ***	0.04*
Self-esteem	0.04 *	0.01 ns
Have children=1	-0.45 ns	-0.62 *
Employment branch #		
Teaching	1.39 ns	1.61**
Adm. leadership	1.39 ns	1.90 **
Office work	0.36 ns	1.1 *
Sale/retail	1.32 ns	1.61 ***
Fish/farming	1.18 ns	0.51 ns
Transport	0.52 ns	-0.09 ns
Manufacturing	0.60 ns	-
Building	1.79 **	-
Nutrition industry	0.69 ns	0.98 ns
Warehouse work	1.3 ns	-
Hotel/restaur.	1.8 *	0.73 ns
Cleaning	1.9 *	1.2 *
Education		
Compulsory school	0.11 ns	0.21 ns
Not completed secondary school	0.72 *	0.42 ns
secondary general programme	0.07 ns	0.25 ns
secondary commercial/sales	0.75 *	0.35 ns
secondary trade/craft/industr.	0.36 ns	-
secondary health	-	-1.02 *
secondary others	-0.13 ns	0.07 ns
Higher education	-0.56 *	-0.77 ***
Numb. of previous		
unemployment spells	0.33 ***	0.36 ***
Duration of spells		
of unemployment	0.03 ***	0.03 ***
(mean)		
Total length of		
previous unemployment		
spells (weeks)	0.04 ***	0.03 ***

Reference groups: $ in education # nursing
* p<0.05 ** p<0.01 *** p<0.001

Previous unemployment before 1987 had a significant impact on risk of unemployment, both as regards to the length of the unemployment period and the number of spells of unemployment. The last measure had the strongest impact. Several variables such as years of education, drop out from school, age, economy and

family situation had no effects and are therefore left out of the table. However, kind of education based on register data from 1992 had a significant impact in males and nearly significant in females. In both males and females not completed secondary education increased risk of subsequent unemployment spells. Furthermore, kind of secondary education also had an impact. Those with secondary education in general commercial/sales work had a high risk of unemployment, most of them were working in the retail trade as shop assistances. Education in health-related auxiliary programmes protected females against unemployment, probably because they were employed in health and social service in the public sector of the economy. Higher education protected against unemployment spells in both sexes. In the same way, the variable employment branch shows the vulnerability of those working in retail, especially women, as well as men in building/construction work, while women in health service (nursing) are protected against spells of unemployment.

According to the table, the results were much the same for males and females, except that social class and having children were significant in females and not in males.

It is interesting that characteristics of present job situation such as employment branch, union membership, working stability, internal training and general working conditions, influenced risk of recurrent spells of unemployment. A lot of individual factors such as health, drug use and self-esteem also had an impact. However, the question is whether these variables still have an impact when controlled for previous spells of unemployment and for unobserved heterogeneity. Table 6 shows nearly the same results for men and women, accordingly, table 7 analyses the total sample, controlling for the sex difference.

Table 7 shows a stepwise multivariate model to be able to identify the impact of previous unemployment on subsequent periods of unemployment in different models of theoretical interest.

Model 1 gives the effect of previous spells of unemployment controlled for background variables. In model 2, information on labour market structure and individual problems are included, leading to a reduction of the effect. However, model 3 includes measurement of duration of unemployment, which is clearly significant. Controlling for this variable, the effect of previous spells of unemployment is reduced to 0.19. However, the reduction of the effect of previous unemployment spells is primarily related to kind of education. Obviously, those with longer education have fewer previous spells of unemployment because they have not been in the labour market.

Table 7
Stepwise Poisson regression models predicting
number of spells of unemployment (1987 to 1993)
in men and women in work in 1987 (n=435)

	Model 1	Model 2	Model 3
Background			
Social class #			
Middle class	0.18ns	0.05ns	0.03ns
Skilled work.	0.28ns	0.26ns	0.26ns
Unskilled work	0.19ns	0.15ns	0.07ns
Women=1	-0.37**	-0.34***	-0.39***
Education @			
Not completed secondary school	0.50 *	0.38ns	0.40*
secondary general programme	-0.07 ns	-0.20ns	-0.19ns
secondary commercial/sales	0.66 *	0.41ns	0.45ns
secondary trade/craft/industr.	0.30 ns	0.28ns	0.32ns
secondary health	-1.66 ns	-1.75ns	-1.80ns
secondary others	0.03 ns	-0.03 ns	0.01ns
Higher education	0.11 ns	-0.14 ns	-0.07ns
Have children=1	-0.30 ns	-0.16ns	-0.32ns
County £			
Southern Norway	0.47 *	0.51*	0.46*
The inland count.	0.25ns	0.27ns	0.30ns
The larger cities	0.21ns	0.14ns	0.16ns
Northern Norway	0.35ns	0.40*	0.43*
Densely populated area =1	-0.14ns	-0.20ns	-0.18ns
Numb. of previous spells of unemployment	0.34***	0.26***	0.19***
intercept	-1.36		
Working conditions			
Want to stay on in current job=1		-0.27**	-0.25*
Union membership=1		-0.31*	-0.30*
Working stability numb. of months		-0.01**	-0.01*
Individual problems			
Health problems=1		0.54***	0.52***
Drug use=1		0.38**	0.41**
Intercept		-0.28	
Duration of spells of unemployment (mean)			0.03 **
Intercept			-0.43

Reference groups £ Western Norway # Upper class
@compulsory school

* p<0.05 ** p<0.01 *** p<0.001

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The table shows that previous spells of unemployment still had a very strong impact upon subsequent spells. Trying out different measurements of previous unemployment, number of spells of unemployment had a stronger impact than both the total duration of previous unemployment, mean duration of spells of unemployment and having ever been unemployed or not.

It is interesting that geographical location had such a strong effect. This is probably because the labour market in the South and especially Northern Norway is characterised by seasonal work implying frequent spells of unemployment.
Individual factors such as motivation for work and individual problems like health problems and drug use increased the risk of subsequent periods of unemployment, also controlled for the length of the unemployment periods and working conditions in their present jobs. This is interesting since several studies of history dependence in unemployment have argued that the risk of successive periods of unemployment is a different phenomenon than the risk of long term unemployment. Andress (1989) found that spells of unemployment could be explained by labour market structures, while long term unemployment was more strongly related to individual problems such as health and social problems.

Table 8 shows the same stepwise analyses, controlling for employment branch and working conditions in one step of the analyses, and then looking at the influence of individual factors such as health and drug use in step 3 in the model.

According to the table such individual factors are not significant when controlling for unemployment branch. It is also important to notice that the significant sex differences in risk of unemployment is reduced when controlling for employment branch.

Table 8

Stepwise Poisson regression models predicting
number of spells of unemployment (1987 to 1993)
in men and women in work in 1987 (n=435)

	Model 1	Model 2	Model 3
Background			
Social class #			
Middle class	0.25ns	0.23ns	0.09ns
Skilled work.	0.38*	0.20ns	0.19ns
Unskilled work	0.23ns	0.32ns	0.26ns
Women=1	-0.38***	-0.16 ns	-0.19***
Have children=1	-0.36 ns	-0.11ns	-0.20ns
County £			
Southern Norway	0.54 *	0.61*	0.67*
The inland count.	0.28ns	0.44ns	0.39ns
The larger cities	0.29ns	0.34ns	0.24ns
Northern Norway	0.43 *	0.48ns	0.47ns
Densely populated			
area =1	-0.12ns	-0.02ns	-0.03ns
Numb. of previous			
spells of unemployment	0.38***	0.36***	0.30***
Intercept	-1.23		
Working conditions			
Want to stay on			
in current job=1		-0.44***	-0.35*
Union membership=1		-0.31ns	-0.45**
Working stability numb. of months		-0.01**	-0.01*
Employment branch #			
Teaching		1.36*	1.5**
Adm. leadership		1.12ns	1.14ns
office work		1.15*	1.16*
Sale/retail		1.45**	1.33**
Fish/farming		1.3*	1.3*
Transport		0.70ns	0.68ns
Manufacturing		1.14*	1.10*
Building		2.07***	2.02***
Nutrition industry		1.16*	1.13*
Warehouse work		1.5 ***	1.28*
Hotel/restaurant		1.16*	1.10*
Cleaning		1.3 *	1.15*
Intercept		-1.97	
Individual problems			
Health problems=1			0.28ns
Drug use=1			0.25ns
Duration of spells of			
unemployment (mean)			0.01 ns
Intercept			-1.63

Reference groups £ Western Norway # Upper class
nursing
* p<0.05 ** p<0.01 *** p<0.001

Table 9 gives the best model with and without controlling for overdispersion.

Table 9
Poisson regression models predicting number
of spells of unemployment (1987 to 1993)
in men and women in work in 1987 (n=546) controlled for overdispersion

	Model 1		Model 2 »	
	Coeff.	se	Coeff.	se
Constant				
County £				
Southern Norway	0.61*	0.25	0.61ns	0.50
The inland count.	0.69**	0.23	0.69ns	0.46
The larger cities	0.65**	0.25	0.65ns	0.50
Northern Norway	0.70**	0.24	0.70ns	0.48
Men=1	0.32*	0.16	0.32	0.32
Numb. of previous spells of unemploy.	0.27***	0.06	0.27*	0.12
Want to stay on in current job=1	-0.46**	0.12	-0.46ns	0.24
Union membership=1	-0.27ns	0.15	-0.27ns	0.30
Working stability numb.of months	-0.02***	0.004	-0.02ns	0.008
Employment branch #				
Teaching	1.3**	0.45	1.3ns	0.90
Adm. leadership	1.1*	0.50	1.1ns	1.01
office work	0.98**	0.39	0.98ns	0.79
Sale/retail	1.3***	0.39	1.3ns	0.79
Fish/farming	1.0*	0.46	1.0ns	0.92
Transport	0.36ns	0.48	0.36ns	0.98
Manufacturing	0.83ns	0.44	0.83ns	0.88
Building	1.77***	0.40	1.77*	0.80
Nutrition industry	0.88*	0.45	0.88ns	0.90
Warehouse work	1.03*	0.45	1.03ns	0.90
Hotel/restaur.	1.1**	0.40	1.1ns	0.80
Cleaning	1.14**	0.42	1.14ns	0.84
Duration of spells of unemployment (mean)	0.013ns	0.007	0.013ns	0.014

Deviance on 403 DF 591.4

* p<0.05 ** p<0.01 *** p<0.001

Reference groups £ Western Norway # nursing

» Model 2 corrected for overdispersion

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According to the table only previous unemployment, employment branch, working stability and work motivation (t=1.92) have a significant impact when overdispersion is taken into account.

Regarding employment branch, we still find that young people working in retail (t=1.65) and building/construction are the most vulnerable group.

7. DISCUSSION

The results show evidence of history dependence in youth unemployment. The question is whether such state dependence is spurious, since past and present unemployment may be correlated, owing to possibly unknown characteristics of the individual (Andress, 1989). Comparing the analyses of the different time periods it seems that this phenomenon is due to selection effects more than a consequence of unemployment.

This is because most of the analyses showed that being previously unemployed or not had nearly the same effect as the length of the period of unemployment. Poisson regression models showed in the same way that previous spells of unemployment had a much stronger impact upon subsequent spells than did the duration of previous spells of unemployment. The results here support the hypothesis of unobserved heterogeneity and not true state dependence, in the sense that previous unemployment cause later unemployment (Heckman and Borjas, 1980).

State dependence should imply some deteriorate effects of unemployment which would increase the risk of later unemployment, and it is reasonable to expect such effects to be related to the duration of unemployment, such as reduction of human capital, increased mental health problems or stigmatisation by employers who are reluctant to hire previously unemployed young people. However, it is important to stress that there still is no statistical evidence here giving support to either state dependence or unobserved heterogeneity. The theoretical implications of the results seem however to indicate unobserved heterogeneity. It is anyhow reasonable to assume both effects to be present. A lot of literature has for instance reported increased mental health problems as a consequence of unemployment (Hammer, 1993).

The strength of the relationship between previous and subsequent unemployment spells was reduced when controlling for education and different aspects of the individual's labour market position. This indicates that it is partly labour market structures which lead to subsequent unemployment spells and not previous unemployment in itself.

Narendranathan and Elias (1993) also found in a cohort study of young males that given current status (unemployed or not), past unemployment history had no impact on risk of future spells of unemployment. However, those previously unemployed the past year still had twice the odds of future unemployment compared with those without any unemployment experience.

In a similar study from West Germany, Andress (1989) concludes that long-term spells of unemployment can be much better explained by personal characteristics, while recurrent unemployment is better predicted by job characteristics as indicators of secondary labour markets. He found that vocational training, income from and tenure of last job prior to unemployment, and previous unemployment were the best

predictors of recurrent spells of unemployment. Health status and duration of unemployment were not good predictors. In other words, his findings are to some degree in accordance with the results presented here. However, in many ways, the two studies are difficult to compare. The German study included data on males only, from a different time period (1977 to 1982), for a different age group (56 % under 30 years) and had a very high attrition (response rate of 39 %). In a study of a local labour market in Austria, Steiner (1989) reported history dependence in unemployment among men but not among women. Analyses of unemployment in the period 1983 to 1986 showed that recurrent spells of unemployment were not caused simply by demand factors or seasonal effects, but were primarily dependent on certain personal characteristics, especially disability affecting work and education.

The results from our study show in the same way that both characteristics of the position in the labour market and personal problems related to health and drug use had significant effects. However, the analyses showed overdispersion, which could not be explained by the variables in the different models. A possible cause could be failure to account for temporal change in the explanatory variables. The outcome may be particularly affected by changes in job characteristics over time. However, analyses of risk of unemployment for each time period, showed nearly the same influence of job characteristics in men. On the other hand, in women the effects of the explanatory variables changed noticeably over time.

The theoretical model, outlined in the introduction, generally fits better for men than for women. Steiner's results (1989) also indicate differences between men and women. On the other hand, Bjørn (1995) found no sex differences in a longitudinal study from Denmark. Analysing educational leavers and those who had finished their apprenticeship training, he found persistent effects of early unemployment in both groups irrespective of gender. Gershuny and Marsh (1994) cohort analyses of unemployment in work histories during the life course, showed history dependence in unemployment both in men and women. However, early unemployment had very small effects throughout the life course. The most important influence on unemployment in any year was the unemployment record of the immediate past both in men and women.

The results here indicate significant sex differences regarding the relationship between previous unemployment ever the last two years, and risk of later unemployment. However, further analyses showed that earlier unemployment in teenage years had a strong effect in women as well. There was no sex-differences in the relationship between previous and subsequent unemployment spells, probably because previous unemployment spells here include the total history of unemployment.

Both in this and other studies, the strong effect of previous spells of unemployment on later spells of unemployment remains nearly the same, even when controlled for duration of unemployment (Andress, 1989; Steiner, 1989). The results indicate that, in some ways, recurrent periods of unemployment may be a different phenomenon than long-term unemployment. An important question is whether the long-term unemployed and recurrently unemployed are structurally different groups. This may have political implications, implying a need to direct the labour market policy at different target groups. Previous analyses of youth unemployment in the Norwegian labour market have shown that young people have not been permanently excluded from the labour market, but have wandered between jobs, education, training schemes and unemployment (Hammer, 1994). Furthermore, long-term unemployment has been

much more common among older age groups than among youth. Both the study by Andress (1989) and that by Steiner (1989) show a higher risk of recurrent unemployment in the youngest age group. (Though, in Steiner's study, this was a curvilinear relationship, implying higher rates also in the oldest age group). For young people the main problem is to obtain entrance to the labour market. In this process, they try and retry, with intervening periods of unemployment periods. Most of them succeed in getting a stable job in the end, but in the meantime some of them will also drop out more permanently, depending upon recession periods in the labour market, the scarcity of jobs, and individual characteristics. This argument implies that there are not necessarily substantially different unemployed groups among young people (i.e. long-term unemployed and the recurrently unemployed), but that the unemployment career rather consists of different stages. The results presented here showed that kind of employment, working conditions and previous unemployment were the strongest predictors of recurrent periods of unemployment. Such factors are not in the same way determinants of long-term unemployment (Hammer, 1993). Possibilities for on the-job-training and union membership protected against recurrent unemployment, while seasonal work and especially work in the retail trade and building/construction gave a high risk of recurrent spells of unemployment. This is typical work in the youth labour market, and illustrate the special problems of insecure working conditions among youth. Further research should focus upon this question.

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INACTIVES OU CHÔMEUSES :
DIFFÉRENCES DANS LA RELATION A L'EMPLOI

Félicité des Nétumières
Patrick Werquin

Résumé

Dans le cadre du débat sur l'activité des femmes, une question souvent abordée par les sociologues est celle de leur rapport à l'emploi qui serait déterminant dans le fait, d'une part, de se déclarer chômeuses plutôt qu'inactives et, d'autre part, de trouver rapidement un emploi. D'un autre côté, la théorie économique peut être vue comme décrivant les femmes chômeuses moins employables que les femmes inactives parce que transmettant alors des signaux de moindre productivité aux employeurs potentiels.
Un modèle de durée univarié multi-épisodes pour expliquer la durée d'accès à l'emploi ordinaire (CDD ou CDI) est estimé pour tester le rôle respectif de l'inactivité passée et du chômage passé : si le chômage semble correspondre à des accès à l'emploi plus probables, surtout lorsque le statut obtenu est un contrat à durée indéterminée.
L'étude fournit aussi quelques éléments d'appréciation de la situation des femmes en situation d'accès à l'emploi à la fin de la décennie 80.

Abstract

Women Unemployed or Out the Labour Force

As far as women participation is concerned, one of the sociological issue is their work commitment which would be determinant to explain their tendency to declare themselves as unemployed as well as to explain their ability to find a job. On the other hand, economic theory describes women as less willing to find a job if they are unemployed rather than out of the labour force: unemployed women would be seen as less efficient by employers.
A multiple spells univariate duration model is estimated to explain the duration between two jobs for young women entering the labour market in France in 1986. These women are followed up to 1989 and we know their position on the labour market month by month during almost four years.
The aim of the paper is two test the role of unemployment vs. inactivity in the past labour market history of women. Doing that, we test the relevance of sociology vs. Economy to explain young women employment. We find that unemployment significantly leads more often to a job than inactivity. This is particularly true when this job is a permanent position (unlimited duration job). The paper also give some stylised facts about the situation of young women, in France, at the end of the eighties.

INTRODUCTION

Avec le développement massif de la population active féminine depuis trente ans, le travail professionnel des femmes semble aujourd'hui être devenu la norme, malgré le contexte de crise économique et la montée spectaculaire du chômage qui s'ensuit. Les taux d'activité ont fortement progressé presque à tout âge, sauf chez les plus jeunes qui poursuivent leurs études beaucoup plus tardivement, reculant ainsi de quelques années leur arrivée potentielle sur le marché du travail. Chez ces dernières néanmoins, la proportion d'inactives non scolarisées poursuit depuis dix ans sa tendance à la baisse, puisqu'elles représentent 15 % des jeunes femmes de 22 ans en 1985 et seulement 5 % en 1992. Dans le même temps, la proportion de chômeuses au même âge passe de 9 à 18 % (Fournier et *alii*, 1995).

Cherchant toutes deux à rendre compte de ce phénomène, la sociologie et l'économie ont des approches différentes de la question de l'offre de travail des femmes. Cette étude vise à en étudier leur complémentarité par le biais de l'analyse de la frontière entre le chômage et l'inactivité.

Cette idée est assez souvent masquée par le fait que la littérature économique oppose les femmes aux hommes dans l'analyse et que ce point de vue peut masquer l'opposition entre chômage et inactivité pour les femmes seulement.

1. THÉORIES : LE CHÔMAGE COMME INDICATEUR D'UN FORT RAPPORT A L'EMPLOI EN SOCIOLOGIE OU COMME UN SIGNE DE MOINDRE PRODUCTIVITÉ EN ÉCONOMIE

Pour les sociologues, cette baisse de l'inactivité chez les femmes témoigne d'une dévalorisation croissante du modèle traditionnel de la femme au foyer, qui s'accompagne d'un renforcement de plus en plus net du rapport à l'activité.

Cette notion de rapport à l'activité vise à désigner l'intensité de l'engagement professionnel (Waite et Desai, 1991 ; Hakim, 1991) en synthétisant l'ensemble des éléments qui, dès l'enfance, vont conduire une femme à vouloir travailler, quels que soient les obstacles qu'elle pourra rencontrer, aussi bien du fait de la ségrégation sur le marché du travail que des contraintes inhérentes à la vie familiale.

Les femmes forment un groupe hétérogène : certaines ont, vis-à-vis de l'emploi, des dispositions similaires à celles des hommes et n'envisageraient pas leur existence sans activité professionnelle, alors que d'autres conservent une attitude bien plus réservée, voire souhaiteraient mener une vie de femme au foyer. En termes économiques, on pourrait désigner le rapport à l'activité par la préférence pour l'emploi (salarié ou non) par opposition au travail domestique.

Il s'agit là d'une caractéristique individuelle inobservable et qui ne peut pas se confondre avec le fait d'être active effectivement. En effet, certaines femmes travaillent pour des raisons financières (absence de conjoint, chômage du conjoint, revenu insuffisant dans le ménage) alors qu'elles préféreraient rester au foyer (Bielby et Bielby, 1984). A l'inverse, d'autres femmes qui souhaiteraient travailler à l'extérieur, restent chez elles (Moen et Smith, 1986).

Bien que la question reste ouverte, le rapport fort à l'activité ne peut pas non plus se confondre avec la réussite professionnelle, dont il est pourtant une condition nécessaire. Sans entrer dans les détails du débat, mentionnons seulement que pour certains sociologues (Hakim, 1991), le fait d'avoir un rapport fort à l'activité conduit à une vie professionnelle continue et à plein temps, à des emplois valorisants et bien rémunérés. L'idée sous-jacente étant que l'on atteint les buts que l'on s'est fixés à condition d'en avoir une vision claire et à long terme.

Mais, pour la plupart (Rexroat et Shehan, 1984 ; Desai et White, 1991), c'est lorsque l'on continue à se porter sur le marché du travail dans de mauvaises conditions, s'exposant à ne trouver que des emplois précaires, avec des horaires difficiles, que l'on manifeste le plus sûrement son attachement à la vie professionnelle. Accepter de travailler dans des emplois peu qualifiés, à faible rémunération et sans perspective d'amélioration, nécessite en effet une intense motivation, tout comme le fait de continuer à rechercher un emploi après une période longue d'essais infructueux. Ainsi, étant donné la situation actuelle de déséquilibre du marché du travail, c'est plutôt la ténacité et la persistance dans l'effort pour se maintenir sur le marché du travail qui caractérisent les femmes ayant un fort rapport à l'activité. C'est la thèse privilégiée ici.

En tout état de cause, si tous s'accordent à dire que les femmes qui ont un rapport fort à l'activité vont développer des stratégies actives, orientées vers la poursuite d'un objectif professionnel, contrairement à celles pour qui ce n'est pas le projet principal, il n'en demeure pas moins qu'il s'agit d'une notion complexe et difficile à manipuler, dont les sociologues cherchent à déceler les signes.

Parmi ceux couramment avancés le fait de se déclarer au chômage, plutôt qu'inactive, lorsqu'on ne travaille pas, apparaît très souvent comme un indicateur indiscutable et minimal de l'existence d'un rapport à l'activité plus élevé (Battagliola, 1993 ; Maruani et Reynaud, 1993).

D'autre part, on avance aussi l'idée que plus le rapport à l'activité est fort, plus la femme sera pressée de trouver un emploi, et cela quelle que soit la qualité de l'emploi qu'elle trouvera. Elle sera prête à accepter ce qu'une autre moins motivée préférerait refuser, dans l'espoir de trouver mieux.

Si l'on en croit alors la thèse selon laquelle ce sont les emplois du marché secondaire qui sont proposés en premier aux femmes peu qualifiées, c'est-à-dire les emplois à contrat à durée déterminée, à temps partiel, à horaires atypiques... alors les femmes ayant un fort rapport à l'activité ont toutes les chances de se retrouver, au moins au cours de la période d'entrée dans la vie active, dans un processus d'alternance rapide entre emplois précaires et chômage, alors que les autres suivraient un parcours moins chaotique mais au cours duquel les durées d'accès à l'emploi seraient toujours plus longues et plus dominées par l'inactivité (Rexroat et Shehan, 1984 ; Bridges et Nelson, 1989 ; Desai et Waite, 1991 ; Glass et Camarigg, 1992).

Les travaux des économistes fournissent des résultats moins nets quant à cette idée, en mettant en évidence le fait que le chômage est au moins aussi pénalisant (sinon plus) pour une femme que l'inactivité, toujours du point de vue de la durée d'accès à l'emploi. L'explication reposerait sur l'idée qu'une chômeuse, par le fait même qu'elle

n'a pas trouvé de travail alors qu'elle en cherche, envoie un "signal négatif", quant à ses aptitudes professionnelles, à l'employeur auprès de qui elle postule. En revanche, l'inactivité d'une femme, à la suite d'une maternité par exemple, et qui se présente à nouveau sur le marché du travail, apparaîtrait bien moins "suspecte" car n'indiquant rien quant à ses capacités productrices. Cette idée semble provenir d'une adaptation des conceptualisations de type sélection adverse[1]. Pour des raisons structurelles (et qui n'ont pas grand chose à voir avec une subite dégradation des capacités productrices de l'individu), il y a plus d'offres de travail que de demandes sur le marché. L'employeur ne connaît pas les capacités productrices de l'individu qui se présente puisque c'est une caractéristique inobservable. En revanche, il connaît son passé. Il peut alors interpréter le fait qu'elle cherche un emploi depuis longtemps comme le signe qu'elle est moins productive puisque personne n'a voulu l'embaucher jusqu'à présent. Il préférera donc retenir la candidature d'une femme qui jusque là ne cherchait pas d'emploi (encore qu'il n'a aucune information sur sa productivité, contrairement au cas des voitures neuves dont on peut supposer qu'elles roulent) dans la mesure où rien de négatif ne transparaît dans son parcours passé. Ainsi, comme le fait d'être chômeuse diminue les chances de trouver un emploi, les durées d'accès à l'emploi risquent d'être d'autant plus longues pour une chômeuse que pour une femme qui se serait déclarée inactive.

2. LA MÉTHODE : MODÉLISER LES DURÉES D'ACCÈS A L'EMPLOI

La mise en évidence d'un effet différencié entre chômage et inactivité peut conduire à éclairer le débat dont les principaux arguments ont été énoncés dans la section 1. Pour appréhender une éventuelle différence dans l'information contenue dans le fait d'avoir été chômeuse ou inactive par le passé, un modèle de durée est estimé pour expliquer la durée d'accès à l'emploi des femmes. En fait, les premiers résultats descriptifs montrent que les femmes peuvent connaître jusqu'à neuf emplois et sept périodes d'accès à un emploi entre juin 1986 et décembre 1989. Aucune de ces durées d'accès à l'emploi n'est plus particulièrement sujet de l'étude. La variable dépendante est donc la durée d'accès à l'emploi quel que soit son rang d'occurrence. Ceci pour toutes les femmes.

2.1. La méthode

Les modèles de durée estimés sont des modèles univariés multi-épisodes : on n'étudie qu'un type de durée - l'accès à l'emploi - et on conserve tous les épisodes d'accès à l'emploi[2]. Une solution alternative peut être de modéliser séparément les premières, deuxièmes, etc. durées d'accès à l'emploi mais elles sont rapidement peu nombreuses

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[1] Rappelons pour mémoire que les modèles de sélection adverse sont construits sur le modèle du marché des voitures d'occasion, dont voici très rapidement les grandes lignes. Lorsque le cours des voitures d'occasion baisse parce que pour une raison ou pour une autre, il y a un afflux de voitures d'occasion sur le marché, la demande baisse également, au lieu de monter comme c'est le cas habituellement. La raison est la suivante : la qualité des voitures d'occasion étant une caractéristique relativement inobservable pour un non spécialiste, les acheteurs utilisent le niveau du prix comme un signal indicateur de cette qualité. La baisse des prix est donc interprétée par les acheteurs potentiels comme une baisse de qualité des voitures, qui préfèrent alors acheter des voitures neuves, dont ils sont sûrs, ou bien différer leur achat (Akerlof, 1970).

[2] Il y a des accès directs à l'emploi - sans passer par le chômage - soit depuis l'école soit depuis un précédent emploi mais ils sont très marginaux et repérés et traités comme tels.

(au-delà de la troisième durée d'accès à l'emploi, les chiffres apparaissent peu significatifs) et les méthodes d'estimation ne fonctionnent pas bien en présence d'échantillons de taille réduite. La solution retenue est donc de modéliser l'ensemble des durées d'accès à l'emploi simultanément. Chaque durée d'accès à l'emploi est identifiée et devient autonome à ceci près que l'histoire de la personne sur le marché du travail jusqu'à cet épisode de non emploi est connu et enregistré avec cette durée d'accès. De même, le numéro d'occurrence de l'événement accès à l'emploi caractérise sans ambiguïté l'événement.

Les séquelles des passages par divers états sont en effet réputées différentes. C'est en tous cas l'objet de cette étude que de départager ce qui relève du passage par le chômage de ce qui relève du passage par l'inactivité. On cherche à appréhender des phénomènes d'itinéraire pour l'accès à l'emploi.

Comme dans le cas des modèles de durée à un épisode, l'estimation doit tenir compte de l'existence d'observations censurées, c'est-à-dire pour lesquelles la transition vers l'emploi n'a pas encore été observée. Pour ces épisodes, seule l'ancienneté dans la recherche d'emploi est connue et ces observations contribuent à la vraisemblance par leur survie. On peut remarquer que dans ce contexte multi-épisodes, certaines femmes voient leur première durée d'accès à l'emploi censurée alors que d'autres ont leur septième durée d'accès à l'emploi révolue.

Pour introduire l'hétérogénéité observée dans le modèle, deux classes de modèles sont adaptées au cas multi-épisodes et estimées par maximum de vraisemblance : le modèle à risque proportionnel et celui à vie accélérée. Le premier fait l'hypothèse de la proportionnalité du taux de transition conditionnel selon laquelle les facteurs explicatifs agissent multiplicativement sur le taux de transition de base (Cox et Oakes, 1984). On procède alors à une estimation semi-paramétrique par la méthode de la vraisemblance partielle (Cox, 1975).

Le second suppose que les variables explicatives interviennent aussi de façon multiplicative sur le taux de transition de base mais aussi sur l'argument du taux de transition de base, d'où cette idée que le temps ne jouerait pas de la même manière selon l'instant considéré. Les modèles sont estimés par maximum de vraisemblance. On peut alors puiser dans la panoplie des distributions statistiques, la spécification du taux de transition de base et implicitement la forme de son évolution dans le temps. Pour permettre la comparaison, deux distributions impliquant une forme différente de la dépendance temporelle sont retenues : la distribution de Weibull qui englobe le cas exponentiel (taux de transition constant dans le temps) et qui procure un taux de transition monotone dans le temps et la distribution log logistique qui donne une dépendance temporelle d'abord croissante puis décroissante.

Une spécification en terme de risques concurrents (modèle multi-états) n'est pas au centre des préoccupations et n'a donc pas été produite. En revanche, l'opposition entre le fait d'avoir trouvé un contrat à durée non limitée (CDI) et d'avoir trouvé un contrat à durée déterminée (CDD) semble ne pas pouvoir être niée dans l'intensité de la transition tout autant que dans l'appréhension du rôle joué par les facteurs explicatifs : deux modèles séparés sont donc estimés pour tenir compte

alternativement de l'accès à un emploi considéré comme stable et à un emploi qui l'est probablement moins[3].

2.2. Le modèle estimé

Cette approche qui privilégie la durée d'accès à l'emploi comme variable dépendante et donc le taux de transition de la période d'accès à l'emploi vers l'emploi lui-même se distingue légèrement des approches habituelles en terme de modélisation des durées de chômage ou des transitions du chômage vers un état tiers en ce sens que la durée d'accès à l'emploi n'est pas homogène. Elle est, en effet, composée pour partie de chômage mais aussi d'inactivité.

Les différentes mesures jeunes ont été distinguées en marge de l'emploi et donc non incluses dans la variable dépendante pour évaluer sereinement la durée d'accès à un emploi ordinaire (CDD ou CDI) et pouvoir en induire des résultats clairs sur l'intensité du rapport à l'emploi des femmes ou la nature des signaux qu'elles peuvent éventuellement transmettre à leurs employeurs potentiels. En revanche, comme le rappelle la théorie, le passage par des contrats précaires, peu valorisés parce qu'à faible contenu en formation ou à faible rémunération relève de l'identification d'un fort rapport à l'emploi. Pour conclure sur ce thème de l'homogénéité de la période d'accès, on peut signaler que, de toutes manières, le chômage ne peut pas être considéré comme un état véritablement homogène et qu'il y a tout lieu de considérer par exemple le motif de la rupture du contrat de travail, la couverture par une assurance chômage ou de solidarité, etc., pour mener à bien une analyse fine de sa durée.

La prise en compte d'éléments explicatifs[4] relève d'une logique triple dont les implications en terme de choix de variables se recouvrent assez largement :

- conditionner au passé du processus et au numéro d'occurrence de la période d'accès en cours à l'emploi pour garantir la validité du modèle (indépendance des différents épisodes d'accès pour un même individu) ;

- prendre en compte les conditions initiales connues (caractère acquis dès la sortie de l'école, en juin 1986) ;

- prendre en compte des variables décrivant l'itinéraire des jeunes femmes (passage par différentes situations : variables muettes pour marquer le fait d'avoir connu ou pas certaines situations comme une mesure jeunes ou durée dans certains états comme le chômage ou l'inactivité résolument au centre du propos).
Les différents modèles sont estimés par Sas 6.10 (Statistical Analysis System) procédures Lifereg (estimation paramétrique) et Phreg (estimation semi-paramétrique).

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[3] Voir Recotillet et Werquin (1995) pour une discussion spécifique du problème de la nature du contrat à partir de techniques comparables sur la même enquête.
[4] La liste exhaustive des variables explicatives est donnée en annexe.

2.3. Le test de Wald pour différencier chômage et inactivité

Tel qu'il est écrit, le modèle doit naturellement produire un paramètre positif à la fois pour le rôle de la durée passée de chômage et pour le rôle de la durée passée d'inactivité sur la durée d'accès à l'emploi. Toutefois, ce n'est pas de constater que plus les jeunes femmes sont longtemps restées en inactivité ou au chômage dans leur histoire, plus leur taux de passage vers l'emploi est faible qui importe mais bien de **mesurer l'effet relatif des deux grandeurs**. Un test de Wald visant à tester l'égalité entre ces deux paramètres est donc proposé pour garantir le caractère significatif des différences constatées dans la valeur absolue des paramètres. Il est proposé dans la procédure Phreg de Sas mais doit être instrumenté par l'affichage de la matrice de variance-covariance des résidus dans Lifereg. Ce test simple présente entre autres l'avantage de ne pas nécessiter l'estimation de la vraisemblance contrainte.

Les résultats des différentes estimations sont exposées (3.2) après une description rapide de l'enquête utilisée (3.1).

3. RÉSULTATS : UN CONTRASTE NET ENTRE CHÔMAGE ET INACTIVITÉ DES JEUNES FEMMES POUR L'ACCÈS AU CDI

Si l'ensemble des travaux rapportés dans cet article concerne exclusivement les femmes (sections 3.2 à 3.4), des éléments descriptifs concernant l'ensemble de la population sont toutefois mentionnés en première partie de cette section de résultats (3.1) pour donner des éléments de comparaison.

Tableau 1

Les données : l'enquête Céreq sur les jeunes sortant de l'enseignement secondaire, technique ou général (ou enquête de cheminement 90)

La source de données est une enquête rétrospective réalisée en janvier 1990 sur l'insertion des jeunes sortant en 1986 des collèges et lycées aux niveaux V, V bis, VI.

Champ	Taille échantillon		Taille population	
	femmes	hommes	femmes	hommes
Niveau V	3 105 (75.47 %)	5 508 (87.26 %)	118 279 (75.33 %)	116 298 (78.3 %)
Niveau V bis	507 (12.32 %)	482 (7.64 %)	19 210 (12.24 %)	18 377 (12.37 %)
Niveau VI	502 (12.2 %)	322 (5.1 %)	19 516 (12.43 %)	13 861 (9.33 %)
Total	4 114 (100 %)	6 312 (100 %)	157 005 (100 %)	148 536 (100 %)

L'échantillon est donc plutôt constitué de jeunes (23 ans de moyenne d'âge en 1990), il est majoritairement masculin (61 %). La formation est, pour les trois quart des jeunes, du niveau d'un CAP et/ou d'un BEP.

3.1. Premiers éléments descriptifs
L'enquête de cheminement (niveau V) du Céreq

Les jeunes sortant de niveau V, V bis et VI occupent en moyenne 2,18 emplois (écart type : 1,26) sur la période d'observation (juin 1986 à décembre 1989).

Tableau 2
Nombre d'occurrences d'emploi (en %)

	1	2	3	4	5	6	7	8	9
Femme	35.1	29.6	18.6	9.8	4.2	1.7	0.7	0.2	0.1
Homme	35.4	31.2	19.3	8.8	3.4	1.3	0.5	0.1	0.0
Ensemble	35.2	30.4	18.9	9.3	3.8	1.5	0.6	0.2	0.1
Par exemple, pour les femmes, 35.1 % des emplois observés sur la période sont des premiers emplois									

Données : enquête de cheminement 90, Céreq

L'étude des épisodes d'emploi (tableau 2) indique une concentration plus forte pour les hommes sur les trois premiers emplois mais plus faible ensuite. Les femmes ont un peu plus de périodes d'emploi distinctes que les hommes. Le tableau 3 indique que très peu de jeunes expérimentent plus de cinq emplois. Un cinquième de ces jeunes (19,7 %) n'ont toujours pas occupé un emploi trois ans et demi après leur sortie de formation initiale, leur durée d'accès à l'emploi est donc maximale et censurée.

Tableau 3
Nombre d'emplois connus (en %)

	0	1	2	3	4	5	6	7	8	9
Femme	19.3	29.7	21.8	15.1	7.5	3.9	1.5	0.6	0.4	0.2
Homme	20.1	28.2	23.5	15.1	7.5	3	1.5	0.6	0.5	0.1
Ensemble	19.7	28.9	22.6	15.1	7.5	3.5	1.5	0.6	0.4	0.1
Par exemple, sur la période considérée, 19,3 % des femmes n'ont connu aucun emploi, 29.7 % en ont connu exactement un...										

Données : enquête de cheminement 90, Céreq

Même si, en présence de données censurées, la moyenne arithmétique sous estime la véritable durée, les durées moyennes observées des trois premiers épisodes sont données dans le tableau 4. Un emploi dure en moyenne 9,31 mois (écart type : 8,67 mois) et le CDD et l'emploi aidé (mesures jeunes) sont nettement plus courts que le CDI.

Tableau 4
Durée moyenne des trois premiers emplois selon le statut

	Durée du 1er emploi		Durée du 2ème emploi		Durée du 3ème emploi	
	Moyenne	*Écart-type*	Moyenne	*Écart-type*	Moyenne	*Écart-type*
CDD	6,15	*6,66*	7,04	*6,56*	6,43	*5,70*
CDI	17,58	*12,90*	10,66	*10,50*	12,15	*8,45*
Mesures[5]	8,65	*5,30*	7,51	*5,17*	7,14	*5,03*

Données : enquête cheminement 90, Céreq

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[5] On entend par là les principales mesures jeunes en vigueur sur la période étudiée : CQ (contrat de qualification), CA (contrat d'apprentissage), SIVP (stage d'initiation à la vie professionnelle) et TUC (travaux d'utilité collective). Les deux dernières ont disparu depuis mais ont été remplacées par des mesures similaires.

A l'issue d'un emploi, le chômage est toujours l'état d'accueil le plus fréquent : 56 % des jeunes au chômage sont des femmes et 44 % des hommes. Cependant un individu connaîtra d'autant plus le chômage qu'il est employé sous CDD : 60 % des jeunes en CDD sont au chômage après l'emploi contre 51 % après une mesure et 36 % après un CDI. *Le phénomène est accentué pour les jeunes femmes : 56 % des jeunes recherchant un emploi après un CDD sont des femmes.*

Quant aux mesures d'aide à l'insertion des jeunes, la trajectoire de l'une d'entre elles vers un CDI est encore bien plus faible que depuis un CDD (6,1 % en moyenne) : le plus souvent les mesures jeunes s'enchaînent ou conduisent à un CDD (10,5 % en moyenne des jeunes en mesure transitent vers un CDD). Le rôle d'insertion directe des mesures jeunes est compromis puisque les transitions sont de type :

     mesure -> mesure,
     mesure -> chômage,
     mesure -> CDD.

Dans tous les cas, l'accès à l'emploi stable reste une exception. Elles ont toutefois un rôle dans l'analyse du rapport à l'emploi puisque accepter une mesure, même réputée peu valorisante, peut révéler un fort rapport à l'emploi et elles seront utilisées comme éléments descriptif de l'itinéraire des femmes dans la modélisation statistique.

L'analyse des situations après deux ou trois emplois de même statut confirme ces résultats. Le chômage reste l'issue majeure, surtout après un CDD (cela concerne entre 55 et 60 % des individus ayant connu deux ou trois CDD consécutifs) et de façon moindre après une mesure. Les CDI, lorsqu'ils sont récurrents et contigus, renversent la tendance : après deux ou trois CDI, il est plus probable de connaître un autre CDI que le chômage. Les sorties vers les mesures ou les CDD sont alors rares, voire inexistantes. Les CDI, lorsqu'ils s'enchaînent, permettent mieux que les autres types d'emploi d'échapper au risque de chômage.

Pour résumer, le cloisonnement des emplois selon le statut sur le marché du travail est net : les échanges sont plus importants entre CDD, mesures et chômage (bien que peu d'individus aillent de CDD en mesure) qu'entre CDD, mesure et CDI. L'accès à l'emploi à durée indéterminée reste limité aux CDI eux-mêmes et quelquefois aux CDD.

Le genre n'a aucune influence sur la fréquence des transitions vers l'emploi mais la situation est moins nette lorsque l'on prend en compte la durée de l'emploi avant la transition. Les femmes sont alors plus nombreuses à connaître des mobilités de type mesure -> mesure où les mesures sont courtes en début de vie active et plus longues par la suite (plus d'un an). Quelle que soit la durée de l'emploi, les hommes sont plus nombreux dans les transitions CDD -> CDD ou CDI -> CDI. Quelle que soit la mobilité considérée, il apparaît que les femmes occupent majoritairement les emplois de courte durée.

De façon générale, les CDD suivis de CDD sont des contrats très courts : la moitié des CDD survenant dans les trois premiers emplois durent moins de trois mois et 65 % moins de six. Non seulement les emplois sous CDD sont récurrents mais ils sont aussi de courte durée.

Il reste à décrire la variable dépendante : la durée d'accès à l'emploi est distribuée selon une forme indiquée dans le graphique 1. On constate beaucoup de durées courtes et, cela a déjà été mentionné, beaucoup de jeunes femmes n'ont pas occupé d'emploi un peu plus de trois ans après la sortie de l'école. L'accumulation habituelle autour de seuils comme un an ou deux ans n'est pas trop importante et on peut donc espérer un biais de mémoire plutôt faible. Enfin, les personnes affichant une durée d'accès nulle parce qu'elle sont passées directement de l'école à l'emploi ont reçu arbitrairement une durée très petite de 0.1 mois.

Le nombre de périodes d'accès que connaissent les femmes est donné dans le tableau 5. Les chiffres deviennent rapidement négligeables : au-delà de trois périodes d'accès, les quantités pourraient être considérées comme négligeables. La méthode le permettant, ces épisodes sont conservés dans les calculs et l'on verra que cela est justifié puisque ces périodes se distinguent entre elles par leur durée : plus le rang d'occurrence est élevé plus la période d'accès est courte.

Tableau 5
Nombre de période d'accès à un emploi connus par les femmes (en %)

1	2	3	4	5	6	7
56.38	27.34	11.05	3.66	1.08	0.34	0.15

Données : enquête de cheminement 90, Céreq

Les tableaux de résultat des six modèles statistiques estimés sont donnés en annexe 1. Les deux premiers sont estimés par maximum de vraisemblance dans un cadre paramétrique avec une distribution sous-jacente respectivement Weibull et log logistique, le troisième par la méthode de la vraisemblance partielle de Cox (1975). Ces trois modèles sont chacun doublés du fait de la prise en compte d'états de sortie différents : CDI ou CDD. Quelques éléments d'évaluation de la qualité des modèles sont donnés puis les paramètres obtenus sont commentés en portant une attention toute particulière à la question des rôles respectifs du chômage et de l'inactivité.

3.2. Éléments de diagnostic dans le choix des modèles pour les femmes

Les résultats sont reproduits en annexe 1. Ils ont été obtenus à partir des observations non pondérées pour ne pas exposer les tests de significativité à des problèmes de variance infinie. Toutefois, les calculs ont aussi été conduits sur les observations pondérées pour vérifier la robustesse des résultats qui est ainsi considérée comme bonne.

Dans un contexte paramétrique, les valeurs obtenues des vraisemblances n'indiquent pas d'avantage majeur en faveur de l'une ou de l'autre des distributions de Weibull ou de log logistique. On peut noter aussi que le test d'exponentialité dans le cas Weibull est rejeté, autrement dit, la dépendance temporelle n'est pas constante, signe éventuel d'une spécification incomplète du modèle.

Toujours pour aider au diagnostic, le passage du modèle paramétrique avec une distribution de Weibull au modèle semi-paramétrique étant immédiat par le biais du

paramètre d'échelle, la relative proximité des résultats après la conversion pourrait militer en faveur de la distribution de Weibull. Enfin et surtout, il y a une grande robustesse dans les résultats, ce qui ne pose pas le problème de la spécification de la distribution du risque de base comme un enjeu capital dans la question posée du rôle respectif du chômage et de l'inactivité pour les femmes.

3.3. Analyse comparée du rôle du chômage et de l'inactivité pour les femmes

Deux types de variables sont utilisés pour appréhender les rôles relatifs du chômage et de l'inactivité des femmes quant à leur durée d'accès à l'emploi et donc, implicitement quant à leur rapport à l'emploi ou aux signaux d'employabilité dont elles sont porteuses. Sont utilisées simultanément des variables de durée de chômage ou d'inactivité et des variables indicatrices signalant le fait de ne pas être passé du tout par le chômage ou l'inactivité dans le passé. Autrement dit, on mesure l'impact de chômage et/ou d'inactivité pour celles qui, justement, ont des durées nulles de chômage et/ou d'inactivité. Ces quatre variables renvoient à la période qui précède le dernier emploi connu, perdu depuis. Dans toute la suite, on parle du passé. Il faut aussi rappeler que le rapport à l'emploi est supposé d'autant plus fort que la jeune femme accepte un emploi de type CDD étant donné que ceux-ci se présentent plus rapidement et que l'on peut donc postuler une forte motivation à travailler lorsque l'emploi obtenu correspond à un statut de type CDD réputé moins attractif. En revanche, parmi les femmes qui accèdent à un CDI, rien ne permet véritablement encore de trancher entre celles qui ont aussi un bon rapport à l'emploi et les autres.

L'idée développée dans la partie théorique de tester l'égalité des paramètres de la durée de chômage passée et de la durée d'inactivité passée donne les résultats produits en annexe 2. Les interprétations proposées maintenant utilisent simultanément les résultats des annexes 1 et 2.

Le premier résultat est général : le chômage passé correspond plus que l'inactivité passée à une durée d'accès à l'emploi moins longue ou encore à une probabilité de transiter vers l'emploi plus importante. En effet, le paramètre de la durée de chômage est toujours plus petit que celui de la durée d'inactivité pour expliquer la durée d'accès à l'emploi : cela indique qu'à durée d'inactivité et de chômage égale, celle qui a eu du chômage a une probabilité plus importante, toutes choses égales par ailleurs, de sortir du chômage. En revanche, l'étude du statut de l'emploi trouvé nuance notablement ce résultat. En effet, toujours lorsque l'on utilise la durée de chômage et d'inactivité, les paramètres estimés indiquent encore cet effet là pour une sortie vers un CDI et le test de Wald confirme que les paramètres sont significativement différents l'un de l'autre. Mais, pour une sortie vers un CDD, le test de Wald conduit à conclure à l'égalité des paramètres. En ce sens, se déclarer à la recherche d'un emploi correspond sans doute plus à une analyse en terme de rapport à l'emploi dans le cas de l'accès à un CDI et en terme d'effet de signal lorsque les femmes trouvent un CDD. Il n'est pas non plus impossible que les analyses sociologique et économique puissent se composer pour, par exemple, prétendre que lorsque le temps passe, la recherche d'un CDI (dont on suppose qu'elle est plus longue que celle d'un CDD) produise plus de découragement et donc ne laissent continuer que les femmes ayant un fort rapport à l'emploi.

Toute une série de modèles - non présentés ici - a aussi été estimée à partir de différentes variantes pour la prise en compte de la durée de chômage et de la durée d'inactivité (rapport, différence, etc.). Il semble que les accès aux CDD et ceux aux CDI s'opposent systématiquement. Il y a donc une grande cohérence dans les résultats statistiques. Pour autant, il est probable que l'on ne peut pas mettre directement en parallèle ces effets dans l'analyse du rapport à l'emploi, des effets de découragement et de signalement puisque toutes ces informations assez peu quantifiables ne varient pas de la même manière dans le temps.

Pour s'en convaincre, l'analyse des paramètres des variables indicatrices visant à appréhender de manière binaire le fait d'être passé ou non par le chômage et/ou l'inactivité par le passé peut suffire. Rappelons que ces variables muettes sont particulièrement utiles pour mesurer la situation de celles qui ont des durées nulles au chômage et/ou en inactivité ; elles sont alors codées à un. Ainsi, les femmes qui n'ont pas connu de chômage du tout par le passé, ont plutôt une durée d'accès à un nouvel emploi plus courte. Il en est de même pour l'inactivité. Ce résultat est important parce qu'il montre que le chômage et l'inactivité ne peuvent pas être un avantage en soi (le propos de l'étude porte sur l'opposition entre les deux). Il demeure probablement vrai que ces états ne sont pas optimaux. Il faut surtout insister sur le fait que ces résultats n'invalident pas les travaux empiriques passés sur l'avantage comparé qu'il y a à se mettre dans la file d'attente au secteur primaire du marché du travail (via le chômage par exemple) plutôt que de passer par des situations relevant du secteur secondaire.

En résumé, lorsque l'emploi obtenu est un CDD - c'est-à-dire qu'on suppose un rapport à l'emploi fort - le chômage passé et l'inactivité passée ne jouent pas un rôle différent. Il semble donc que ni l'employeur - par la sélection qu'il pourrait imposer à l'avantage des inactives - ni la jeune femme elle-même - par l'intensité de son rapport à l'emploi mesurée par sa durée de chômage passé - ne jouent de rôle différencié. Les deux retardent la reprise d'un CDD de la même façon. On peut aussi penser que dans l'obtention d'emplois de courte durée, d'autres facteurs comme l'environnement économique, la localisation géographique de la personne, jouent un rôle important.

En revanche, lorsque l'emploi obtenu est un CDI, une explication de type rapport à l'emploi fort telle que la décrit la sociologie semble particulièrement bien adaptée à nos résultats. Pour obtenir un emploi définitif, l'employeur serait finalement moins déterminant que la volonté de travailler des femmes. Volonté qui, forgée très tôt, aurait aussi déterminé sa trajectoire dont ses diplômes et son expérience sur le marché du travail, par exemple.

3.4. Les facteurs explicatifs de la durée d'accès à l'emploi

Au-delà de cette comparaison immédiate entre le rôle du passage - et de la longueur du passage - par le chômage et/ou l'inactivité, le modèle spécifié autorise quelques commentaires sur l'effet de divers facteurs explicatifs. L'enquête utilisée étant riche en informations complémentaires, on peut proposer quelques éléments supplémentaires d'appréciation de la situation des femmes quant à leur accès à l'une des deux composantes de l'emploi ordinaire (CDD ou CDI).

Il est notamment utile d'étudier l'habituelle opposition entre le rôle des acquis sur le marché du travail (caractéristiques d'itinéraire dans et hors de l'activité, durée et récurrences dans différents états du marché du travail) et l'effet des variables d'environnement familial. Ici encore (voir Balsan et *alii*, 1996), une spécification adéquate du modèle permet d'identifier le rôle respectif des conditions initiales (le diplôme de la mère ou du père, l'activité éventuelle de la mère, le fait de vivre en couple en 1989 (notion de projet), etc.) et des informations longitudinales assimilables à l'expérience de l'emploi ou de la recherche d'emploi.

Ainsi, parmi les conditions initiales, le niveau de formation apparaît très significatif avec des durées plus longues pour les peu diplômées. Une spécialité de formation trop générale correspond aussi à des difficultés à retrouver un emploi. Avoir un enfant en 1989 émerge aussi très nettement comme allongeant la durée de retour à l'emploi. Deux variables de même nature méritent ensuite d'être étudiées : elles identifient toutes les deux la sortie prématurée de l'école (quelques mois avant juin 1986). La première correspond à un accès direct à l'emploi et l'autre à une sortie vers un état autre (mesure jeune ou chômage essentiellement).
Si la première n'a de sens que pour les jeunes femmes ayant perdu leur emploi, la deuxième relève sans doute pour partie de l'appréhension d'un bon rapport à l'emploi puisque la mise sur le marché du travail est anticipée.
Seule la première est significative : la durée d'accès est beaucoup plus courte pour les rares femmes qui ont eu un emploi avant juin 1986. Elles n'ont sans doute pas perdu ce premier emploi.

Parmi les informations longitudinales, la période d'accès est globalement d'autant plus courte qu'elle a un rang d'occurrence élevé. Toutefois, la deuxième période d'accès est atypique puisqu'un peu plus longue que la première, voire très souvent non significativement différente.

La référence à l'emploi perdu (trois variables sont disponibles : le statut, le motif de rupture du contrat de travail et la nature partielle ou pas de l'horaire de travail) a probablement aussi trait à la description du rapport à l'emploi.
Ainsi, avoir perdu un emploi à temps plein, sans doute parce qu'alors la recherche s'oriente vers un nouvel emploi à temps plein, rend la réussite moins probable, mais la variable n'est significative que pour les sorties vers un CDD. Pour le motif de rupture du dernier contrat de travail en date, on note peu de discrimination si ce n'est l'existence d'un effet significativement différent entre les jeunes femmes arrivées à la fin de leur contrat de travail temporaire et les licenciées lorsque l'accès s'effectue vers un CDD. Dans ce cas en effet, la durée d'accès à un CDD est plus courte lorsque l'on vient d'un CDD. L'explication est classique elle aussi : elle correspond à ce constat maintes fois fait qu'il existe une population qui alterne les périodes d'emploi de courte durée et de non emploi. En revanche, l'analyse en termes de rapport à l'emploi est moins habituelle au sens où l'on peut interpréter les prédictions du modèle en considérant les femmes que la théorie décrit comme ayant un fort rapport à l'emploi parce qu'elles acceptent de travailler malgré des propositions de statut peu attractives. Ces derniers résultats sont en tout cas confirmés par l'observation du rôle du dernier statut occupé. Ils indiquent un accès plus long lorsque le dernier emploi était à durée déterminée et que la personne a finalement accédé à un emploi à durée non limitée et un accès plus rapide lorsque l'emploi retrouvé a été un CDD.

Dans un autre registre, plus la durée cumulée passée en emploi est importante, plus la durée d'accès à un nouvel emploi est longue. Ceci correspond à l'effet obtenu plus haut sur le rang d'occurrence de la période d'accès : perdre subitement son emploi en l'absence d'une forme d'expérience de recherche d'emploi implique des difficultés plus grandes, sans doute aussi des exigences plus importantes (salaire de réserve plus élevé par exemple).

Les mesures enfin. Elles ne sont pas un bon indicateur d'un fort rapport à l'emploi ou d'une bonne employabilité lorsqu'elles remontent trop loin dans le passé puisque leurs paramètres n'apparaissent jamais significatifs.

Les résultats empiriques montrent un double rôle des conditions initiales et de l'acquis sur le marché du travail. C'est le signe tout d'abord que si les employeurs sont déterminants dans le recrutement des jeunes femmes, ils s'intéressent autant à la nature de leur formation ou au contexte en général qu'à leurs acquis sur le marché du travail. Si, comme cela semble être le cas notamment pour l'accès à un CDI, c'est la densité du rapport à l'emploi des femmes qui est déterminante dans leur transition vers l'emploi, les résultats sont cohérents puisque les variables de conditions initiales pertinentes sont celles qui sont théoriquement les plus liées au rapport à l'emploi : mère active, diplôme, etc. Il reste que si l'expérience sur le marché du travail n'est pas un résumé exhaustif de la motivation et de l'intensité du rapport à l'emploi des femmes, le chômage est moins souvent associé à des difficultés de retour à l'emploi que l'inactivité.

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ANNEXES

Annexe 1
Modèles estimés

Variable dépendante :	Modélisation paramétrique			
durée de la période d'accès à un emploi (CDD ou CDI)	Weibull, CDI		Weibull, CDD	
valeur de la log-vraisemblance :	-4386		-6291	
nombre d'observations non censurées :	2216		3294	
nombre d'observations censurées :	1806		1806	
Variables explicatives	**paramètre**	**Pr>t**	**paramètre**	**Pr>t**
constante	2.26	0.00	2.82	0.00
Occurrence de la période d'accès :				
première période d'accès	-0.50	0.33	-0.61	0.17
deuxième période d'accès	référence	-	référence	-
troisième période d'accès	-0.44	0.00	-0.52	0.00
quatrième période d'accès	-0.75	0.00	-0.99	0.00
cinquième période d'accès	-1.20	0.00	-1.37	0.00
sixième période d'accès	-0.99	0.15	-1.40	0.00
septième période d'accès	-3.02	0.00	-1.69	0.00
Niveau de formation à la sortie de l'école :				
niveau V	référence	-	référence	-
niveau V bis	0.4	0.00	0.31	0.00
niveau VI	0.86	0.00	0.79	0.00
Spécialité de formation à la sortie de l'école :				
industrielle (1 à 25)	0.10	0.07	0.03	0.55
tertiaire (26 à 41)	référence	-	référence	-
tertiaire général (42 à 48)	0.22	0.00	0.17	0.00
Etre sortie de l'école avant juin 1986	0.06	0.62	0.01	0.94
Avoir obtenu un emploi avant juin 1986	-4.67	0.00	-4.52	0.00
Age en 1989	-0.03	0.13	-0.01	0.38
Vivre en couple en 1989	0.07	0.21	0.02	0.60
Avoir au moins un enfant en 1989	0.92	0.00	0.80	0.00
Avoir une mère diplômée	-0.13	0.01	-0.09	0.03
Avoir un père diplômé	-0.09	0.06	-0.08	0.04
Avoir une mère qui n'a jamais été active	0.18	0.00	0.19	0.00
Résider chez ses parents en 1989	0.22	0.00	0.20	0.00
Statut du dernier emploi perdu :				
inconnu	0.60	0.17	0.18	0.67
CDI	référence	-	référence	-
CDD	0.17	0.03	-0.27	0.00
Motif de rupture du dernier contrat de travail :				
inconnu	0.05	0.83	0.04	0.88
départ volontaire	-0.24	0.07	-0.80	0.56
fin de contrat de travail	0.09	0.51	-0.24	0.04
licenciement	référence	-	référence	-
autre motif	0.14	0.48	0.08	0.65
Temps de travail du dernier emploi perdu :				
temps de travail inconnu	0.54	0.25	0.71	0.06
avoir perdu un emploi à temps partiel	référence	-	référence	-
avoir perdu un emploi à temps plein	0.14	0.13	0.13	0.08
Durée cumulée de chômage passée (avant le dernier emploi perdu)	0.09	0.00	0.08	0.00
Durée cumulée d'inactivité passée (avant le dernier emploi perdu)	0.15	0.00	0.09	0.00
Durée cumulée passée en emploi (y compris le dernier emploi perdu)	0.04	0.00	0.02	0.00
Durée cumulée passée en mesure marchande (avant le dernier emploi perdu)	0.09	0.00	0.05	0.00
Durée cumulée passée en mes. non marchande (avt le dernier emploi perdu)	0.07	0.00	0.06	0.00
Ne jamais avoir été au chômage avant le dernier emploi perdu	-0.18	0.00	-0.31	0.00
Ne jamais avoir été en inactivité avant le dernier emploi perdu	-0.05	0.55	-0.23	0.00
Ne pas avoir connu de mesure marchande avant le dernier emploi connu	0.02	0.94	-0.32	0.17
Ne pas avoir connu de mesure non marchande avant le dernier emploi connu	-0.10	0.23	-0.07	0.30
paramètre d'échelle fourni par SAS	**0.96**	-	**0.97**	-

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Variable dépendante :	Modélisation paramétrique			
durée de la période d'accès à un emploi (CDD ou CDI)	Log Logistique, CDI		Log Logistique, CDD	
valeur de la log-vraisemblance :	-4295		-6131	
nombre d'observations non censurées :	2216		3294	
nombre d'observations censurées :	1806		1806	
Variables explicatives	paramètre	Pr>t	paramètre	Pr>t
constante	2.04	0.00	2.57	0.00
Occurrence de la période d'accès :				
première période d'accès	-0.64	0.18	-0.77	0.05
deuxième période d'accès	référence	-	référence	-
troisième période d'accès	-0.56	0.00	-0.63	0.00
quatrième période d'accès	-0.85	0.00	-1.12	0.00
cinquième période d'accès	-1.22	0.00	-1.41	0.00
sixième période d'accès	-1.20	0.04	-1.51	0.00
septième période d'accès	-2.90	0.00	-1.43	0.00
Niveau de formation à la sortie de l'école :				
niveau V	référence	-	référence	-
niveau V bis	0.33	0.00	0.28	0.00
niveau VI	0.75	0.00	0.73	0.00
Spécialité de formation à la sortie de l'école :				
industrielle (1 à 25)	0.08	0.20	0.05	0.24
tertiaire (26 à 41)	référence	-	référence	-
tertiaire général (42 à 48)	0.24	0.00	0.17	0.00
Etre sortie de l'école avant juin 1986	0.03	0.82	-0.02	0.88
Avoir obtenu un emploi avant juin 1986	-4.10	0.00	-3.93	0.00
Age en 1989	-0.03	0.18	-0.01	0.40
Vivre en couple en 1989	0.05	0.37	0.02	0.61
Avoir au moins un enfant en 1989	0.78	0.00	0.67	0.00
Avoir une mère diplômée	-1.12	0.03	-0.10	0.01
Avoir un père diplômé	-0.07	0.18	-0.03	0.48
Avoir une mère qui n'a jamais été active	0.17	0.00	0.18	0.00
Résider chez ses parents en 1989	0.14	0.01	0.19	0.00
Statut du dernier emploi perdu :				
inconnu	0.55	0.20	0.11	0.74
CDI	référence	-	référence	-
CDD	0.12	0.14	-0.31	0.00
Motif de rupture du dernier contrat de travail :				
inconnu	0.26	0.30	0.18	0.52
départ volontaire	-0.29	0.04	-0.13	0.35
fin de contrat de travail	-0.17	0.20	-0.28	0.02
licenciement	référence	-	référence	-
autre motif	0.18	0.38	0.15	0.38
Temps de travail du dernier emploi perdu :				
temps de travail inconnu	0.56	0.17	0.91	0.00
avoir perdu un emploi à temps partiel	référence	-	référence	-
avoir perdu un emploi à temps plein	0.11	0.23	0.17	0.03
Durée cumulée de chômage passée (avant le dernier emploi perdu)	0.08	0.00	0.076	0.00
Durée cumulée d'inactivité passée (avant le dernier emploi perdu)	0.13	0.00	0.081	0.00
Durée cumulée passée en emploi (y compris le dernier emploi perdu)	0.04	0.00	0.02	0.00
Durée cumulée passée en mesure marchande (avant le dernier emploi perdu)	0.10	0.00	0.06	0.00
Durée cumulée passée en mes. non marchande (avt le dernier emploi perdu)	0.07	0.00	0.07	0.00
Ne jamais avoir été au chômage avant le dernier emploi perdu	-0.50	0.00	-0.60	0.00
Ne jamais avoir été en inactivité avant le dernier emploi perdu	-0.22	0.00	-0.35	0.00
Ne pas avoir connu de mesure marchande avant le dernier emploi connu	0.13	0.58	-0.35	0.10
Ne pas avoir connu de mesure non marchande avant le dernier emploi connu	-0.15	0.07	-0.11	0.13
paramètre d'échelle fourni par SAS	**0.68**	-	**0.67**	-

Variable dépendante :	Modélisation semi-paramétrique			
durée de la période d'accès à un emploi (CDD ou CDI)				
valeur de la log-vraisemblance :	-16095		24891	
nombre d'observations non censurées :	2216		3294	
nombre d'observations censurées :	1806		1806	
Variables explicatives	**paramètre**	**Pr>t**	**paramètre**	**Pr>t**
Occurrence de la période d'accès :				
première période d'accès	0.44	0.40	0.58	0.20
deuxième période d'accès	référence	-	référence	-
troisième période d'accès	0.45	0.00	0.50	0.00
quatrième période d'accès	0.69	0.00	0.93	0.00
cinquième période d'accès	1.07	0.00	1.26	0.00
sixième période d'accès	0.84	0.24	1.30	0.00
septième période d'accès	2.45	0.00	1.41	0.00
Niveau de formation à la sortie de l'école :				
niveau V	référence	-	référence	-
niveau V bis	-0.40	0.00	-0.30	0.00
niveau VI	-0.93	0.00	-0.81	0.00
Spécialité de formation à la sortie de l'école :				
industrielle (1 à 25)	-0.10	0.10	-0.02	0.72
tertiaire (26 à 41)	référence	-	référence	-
tertiaire général (42 à 48)	-0.16	0.04	-0.11	0.06
Etre sortie de l'école avant juin 1986	-0.08	0.54	-0.03	0.77
Age en 1989	0.03	0.18	0.01	0.37
Vivre en couple en 1989	-0.06	0.34	-0.04	0.45
Avoir au moins un enfant en 1989	-0.93	0.00	-0.76	0.00
Avoir une mère diplômée	0.13	0.00	0.09	0.03
Avoir un père diplômé	0.08	0.09	0.08	0.06
Avoir une mère qui n'a jamais été active	-0.19	0.00	-0.18	0.00
Résider chez ses parents en 1989	-0.23	0.00	-0.20	0.00
Statut du dernier emploi perdu :				
inconnu	-0.57	0.21	-0.17	0.68
CDI	référence	-	référence	-
CDD	-0.18	0.03	0.26	0.00
Motif de rupture du dernier contrat de travail :				
inconnu	0.00	0.99	-0.02	0.95
départ volontaire	0.24	0.09	0.07	0.62
fin de contrat de travail	0.08	0.55	0.22	0.07
licenciement	référence	-	référence	-
autre motif	-0.14	0.50	-0.08	0.63
Temps de travail du dernier emploi perdu :				
temps de travail inconnu	-0.57	0.25	-0.70	0.06
avoir perdu un emploi à temps partiel	référence	-	référence	-
avoir perdu un emploi à temps plein	-0.16	0.11	-0.13	0.07
Durée cumulée de chômage passée (avant le dernier emploi perdu)	-0.088	0.00	-0.077	0.00
Durée cumulée d'inactivité passée (avant le dernier emploi perdu)	-0.149	0.00	-0.086	0.00
Durée cumulée passée en emploi (y compris le dernier emploi perdu)	-0.04	0.00	-0.03	0.00
Durée cumulée passée en mesure marchande (avant le dernier emploi perdu)	-0.09	0.00	-0.06	0.00
Durée cumulée passée en mes. non marchande (avt le dernier emploi perdu)	-0.07	0.00	-0.06	0.00
Ne jamais avoir été au chômage avant le dernier emploi perdu	0.17	0.00	0.29	0.00
Ne jamais avoir été en inactivité avant le dernier emploi perdu	0.06	0.50	0.23	0.00
Ne pas avoir connu de mesure marchande avant le dernier emploi connu	-0.05	0.83	0.30	0.21
Ne pas avoir connu de mesure non marchande avant le dernier emploi connu	0.09	0.33	0.05	0.51

Annexe 2
Tests d'égalité des paramètres du chômage et de l'inactivité

Test de Wald de l'égalité des paramètres des variables de durée passée de chômage et d'inactivité		
(chi-deux tabulé à 1 ddl = 3.84)	DUCHOP = DUINAP	
Modèles	chi-deux	décision (proba > chi-deux)
Weibull (vers CDI)	7.08	différents
Weibull (vers CDD)	0.35	égaux
Log-logistique (vers CDI)	7.10	différents
Log-logistique (vers CDD)	0.20	égaux
semi-paramétrique (vers CDI)	6.82	différents
semi-paramétrique (vers CDD)	0.367	égaux

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METHODS AND FINDINGS IN SCHOOL TO WORK
EVALUATION RESEARCH IN THE US

Paul Ryan

Abstract

The paper reviews contemporary US evaluation research in the school to work area, with an eye its implications for European practice, in both policy and evaluation. The controversy over evaluation methods is discussed, emphasising the informational limits of all techniques, the limitations of "single issue" evaluations, the need to draw upon multiple sources of evidence, and the gulf which exists between best practice in publicly sponsored research in the US and in the European Community. Evaluations findings for labour market programmes, the vocationalisation of curricula in secondary education and apprenticeship are reviewed. Significant benefits - whether to participants or to the wider economy - have not been found for most of the programmes adopted in the US for youth, both in school and out of school. The possibility that more ambitious programmes - involving in particular apprenticeship or the integration of academic and vocational studies in secondary schooling - might lead to more impressive results remains unresolved.

Résumé

Évaluation de l'insertion des jeunes aux États-Unis : méthodes et résultats

L'article propose un tour d'horizon des travaux de recherche sur l'évalutaion dans le domaine de l'insertion professionnelle aux États-Unis. Les implications pour l'Europe en terme d'evaluation et de décision sont aussi abordées. La controverse sur les différentes méthodes d'évaluation est discutée en mettant en avant les limites de toutes ces techniques en termes d'informations disponibles, les restrictions liées à une évaluation d'un seul point de vue, la necessité de faire appel à des sources de résultats multiples et le fossé qui existe entre les pratiques de la recherche publique aux États-Unis et dans l'Union européenne. Les résultats des évaluations sur les mesures en faveur de l'emploi, de la professionnalisation des programmes dans l'enseigneemnt secondaire et de l'apprentissage sont abordés. Aucun bénéfice significatif - que ce soit pour les participants aux divers programmes ou pour l'ensemble de l'Économie - n'est trouvé pour la plupart des actions adoptées aux États-Unis en faveur des jeunes, qu'ils soient encore à l'école ou non. Une question demeure : est-ce que des programmes plus ambitieux - mettant en particulier en œuvre de l'apprentissage ou une intégration des enseignements académiques et professionnels dans le secondaire - pourraient conduire à des résultats plus nets ?

1. INTRODUCTION

Many of the European school to work issues which have been studied by members of the ESF Network on Transitions in Youth possess close counterparts in the United States. The corresponding US literature is interesting from a European standpoint, notwithstanding differences in market and institutional circumstances, partly because of the range of policies already tried in the US and partly because the superior resources and more technical orientation of American evaluation research have much to teach its European counterpart.

This paper discusses some leading methodological issues raised by such research. Evaluation methods are nowadays hotly disputed by US economists. The principal methodologies - social experiments and econometric modelling - both have their champions. Both approaches are more sophisticated than their counterparts in official European evaluation research. American controversies have deployed considerable technical expertise and increased greatly professional awareness of the obstacles to robust policy evaluation. At the same time, debates in the US have brought out the informational limitations of all evaluation methods, including the most technically sophisticated. They have thereby pointed up, albeit largely unwittingly, the value of diverse sources of information, including less "sophisticated" historical and comparative approaches.

Methodological issues are illustrated here with some of the findings of US evaluation research. Examples are drawn from three policy areas: youth labour market programmes, vocational curricula in secondary education and apprenticeship training. Different levels of attention and methodological sophistication characterise the three areas in recent research.

Evaluation findings in these areas are also of intrinsic interest to a European audience. The benefits gained by young people from the range of publicly services provided by US labour market programmes, which includes remedial education, vocational training, job search assistance and counselling, are an important issue in Europe. In France and Britain, the relevant programmes have involved fixed duration contracts for youth employment and training: the *contrats d'insertion et d'adaptation* in France, and the Youth Training scheme and Modern Apprenticeship in Britain. Similarly, the benefits of vocational as opposed to general studies in secondary schooling are currently of interest in, e.g., France (*baccalauréat professionnel* vs. *baccalauréat général*), Germany (*Abitur* vs. *Lehre*) and Britain (GNVQs vs. A Levels).

Section 2 discusses methodological issues, both those which continue to exercise the practitioners of evaluation research in the US and those which do not but which arguably should do so. The findings of US evaluations of labour market programmes and vocational education are discussed in section 3, along with findings concerning apprenticeship, which features only marginally in the US literature, but which illustrates key issues of evaluation method. The conclusions are in section 4. The discussion draws upon Ryan and Büchtemann (1996), extending the discussion of methodological issues but reviewing evidence only on those three specific categories of school to work issue.

2. EVALUATION METHODOLOGY

Evaluation methods differ in three important respects: dimensionality of the outcomes considered, degree of approximation to experimental conditions and underlying assumptions about the labour market. This section considers the three attributes in turn.

2.1. Scope of evaluation

The school to work literature suggests a variety of potential policy objectives, including high levels of educational attainment, universal youth access to vocational training, low rates of long-term youth unemployment, equality of youth opportunities, and low rates of teenage pregnancy, crime and drug abuse, amongst others (e.g., Quint et al., 1994). The multiplicity of possible objectives suggests that some ordering and reduction of the set of objectives is desirable. Welfare economics pursues that objective by reducing diverse objectives to two fundamental criteria, efficiency and equity. On those criteria, long-term unemployment, for example, is doubly condemned, both as a waste of resources and as a burden which falls disproportionately on the most disadvantaged young people.

It is of course impossible to reduce all evaluation criteria to efficiency and equity terms: educational and social goals in particular often fall outside the net. Nevertheless, it is instructive to proceed as if that were possible, or at least to concentrate upon the set of objectives for which it is in principle possible.

In practice, a further restriction is also common in academic research: the narrowing of scope to a single aspect of programme effects, presumed relevant to some wider, but typically unperformed, efficiency assessment. Such "single outcome" evaluation research dominates the academic literature, both in the US and Europe (Heckman and Hotz, 1989; Breen, 1991; Dolton et al., 1994; Korpi, 1994; Bonnal et alii, 1995). The question investigated is typically whether a policy has altered some labour market outcome potentially relevant to its efficiency effects, such as the employability or earning power of participants. The limitation of evaluations to a single outcome dimension are sometimes defended as necessary both for evaluation techniques to be refined and for robust evidence to be developed, as a potentially valid and reliable input to some potential wider assessment, but the latter is rarely encountered in the academic literature.

The other strand in contemporary US evaluation literature fits more readily into the format prescribed by welfare economics: cost-benefit analysis, which attempts in principle to measure and value all benefits and costs to the economy associated with the programme's operation. Cost-benefit analysis has become the predominant mode in the evaluation studies nowadays routinely required by Congressional authorisations of labour market programmes. It has become a staple in the diet of a thriving commercial sector (e.g., Bloom et al., 1994). A major non-profit research institution, the Manpower Demonstration Research Corporation, has been established with a view to the performance of publicly funded, high quality evaluation research (Solow, 1990).

In practice, US cost-benefit analyses of public programmes suffer from all the limitations of the genre, notably incomplete cost and benefit categories, imperfect or arbitrary shadow prices for valuing costs and benefits (particularly for social and educational outcomes), inadequate duration of measurement of subsequent benefits (Couch, 1992), neglect of the variance of outcomes, etc. Some of these difficulties will be considered below. At this stage, it is sufficient to note that the ideal of a comprehensive cost-benefit analysis contrasts attractively, for all these limitations, to the narrow criteria which dominate academic evaluation research.

The findings of cost-benefit studies of four labour market programmes for US youth are summarised in Table 1. The efficiency-oriented "bottom line" in column 6 reports the estimated present value of net benefits to the economy, i.e., covering participants and non-participants combined. Three out of the four programmes were evaluated as efficiency losses, in that any benefits to participants were outweighed by losses elsewhere, notably the resource costs of delivering the programme. Only the long-standing Job Corps programme was found to have benefited the economy as a whole.

Equity effects are intermittently considered in US evaluation research, consistent with the predominant orientation in US labour market programmes towards disadvantaged individuals. For example, the question may be asked: to what extent has a programme made its participants better off during participation (a plausible equity objective), even if it has not delivered net benefits to the wider economy (the standard efficiency objective)? On such a concept of equity, three out of the four programmes in Table 1 score favourably, as having improved the lot of their participants - although the statistical significance of those benefits remains uncertain. JTPA (Job Training Partnership Act) Title II youth programmes were by contrast estimated to have made participants worse off than they would otherwise have been, both by failing to lead to durable gains in earnings after participation and by offering them training allowances lower than the expected value of foregone earnings during the participation period.

Findings for two of the three programmes - Supported Work and Jobstart - suggest therefore a clash between equity and efficiency, in that, although they appear to have benefited their participants (an equity gain), they did not do so strongly enough to outweigh their costs to the wider economy, leading to negative net benefits overall (an efficiency loss). In a such situations, which criterion dominates in practice? The answer changes as one crosses the Atlantic: efficiency predominates in the US, equity in Europe.

The broad US consensus is that a programme be considered a success and continue to enjoy funding only in the presence of positive net benefits. That criterion implicitly rules out any weight to equity objectives in programme continuation, whatever their role in programme initiation. Thus Congress responded in 1995 to research findings of negative net benefits in the youth programmes funded by the JTPA, Title II, by cancelling funding for those programmes. Evidence that JTPA even made young participants worse off while participating on the programme may also have encouraged the cancellation of youth provision under Title II, but the primary objection was the efficiency one, viz., that it was a waste of resources.

In Europe, by contrast, official evaluation research implicitly puts equity ahead of

efficiency. The practice of both typical EC member states and the European Commission is to avoid cost-benefit analysis, to ensure that the programme has been delivered adequately, and to take as sufficient grounds for a programme's continuation, e.g., that gross outcomes such as job placement rates are high enough or that it is presumed to provide benefits to participants while active on it (e.g., CEC, 1993; UK ED, 1991). Supported Work might have been received favourably in Europe had it thrown up the evaluation in Table 1, given that it did at least benefit its participants.

In sum, the comprehensive aspirations of the evaluation research nowadays commissioned by public authority in the US compare favourably to the narrow criteria adopted in strictly academic research, not to mention to officially sponsored EU evaluation research. At the same time, US research typically excludes equity from playing a part in evaluation research comparable to its implicit importance in European policy formulation.

2.2. Experimental status

The natural sciences rely commonly on experimental procedures to study cause and effect, using laboratory conditions to hold constant other influences on the outcome. Economics can rarely use laboratory experiments, depending instead primarily on statistical evidence provided by the economy, as key influences on particular outcomes vary across time and place. In disentangling a particular cause and effect within the welter of interactive processes at work in the economy, two features are centrally important: the implementation of the counterfactual and the variability of the prospective causal variable. The two are now considered in turn.

2.2.1. Implementation of counterfactual

" The fundamental evaluation problem [...] arises from the impossibility of observing what would happen to a given person in both the state where he or she receives a treatment (or participates in a programme) and the state where he or she does not. If a person could be observed in both states, the impact of the treatment on that person could be calculated by comparing his or her outcomes in the two states, and the evaluation problem would be solved" (Heckman and Smith, 1995, p.87).

Given that participants are not observed as non-participants, evidence has to be sought on the *counterfactual*: what would have happened to them had they not participated. The counter-factual is usually implemented by selecting individuals or groups who are presumed not to have been affected by the programme and using their experiences as evidence of what would have happened to participants in the absence of the programme. The difference between their outcomes and those of participants, corrected as necessary for other relevant differences between the two groups, then estimates the effects of the programme.

Ways of implementing the counterfactual begin with social experiments, termed here *highly experimental* methods (Table 2, row 1). Eligible applicants are randomly assigned by the programme's administrators to either a treatment group or an untreated control group. In large samples, any differences between the underlying

attributes and circumstances of participants and controls are then at most trivial, and the unadjusted difference in mean outcomes between the two groups is an unbiased estimator of average programme effects.

The second set of methods may be termed *quasi-experimental*. A comparison group of non-participants is selected by the statistical analyst so as to be as similar as possible to the participant group. Regression analysis is used to adjust the raw difference in group outcomes for inter-group differences in other factors, notably labour quality. The simplest approach is method (3) in Table 2, which adjusts outcomes for all relevant observable attributes. Method (2) goes further, recognising that most datasets do not include measures of all of the personal attributes, such as motivation and ability, which influence participation decisions, and that method (3) is therefore potentially distorted by selection bias. Method (2) attempts to correct for unobservable differences between the two groups, using information on other outcomes which are presumed to have been affected by the same unobservables, e.g., the participation decision itself.

Other ways of implementing the counterfactual are termed *weakly experimental*, as they do not attempt to hold all relevant influences constant, whether by programme design or multiple regression. Outcomes for participants may be compared to those of participants in other programmes or to those of nearby non-participant age groups (Table 2, rows 4,5), to the prior experiences of the participants themselves (the "before and after approach", row 6), or to comparable groups in other countries (row 7). Also included here are speculative methods, looking to informed opinion to indicate the counterfactual. Participants themselves may be asked to estimate what would have happened had the programme not been available (row 8). Expert opinion, such as that of the analyst him/herself, may make such a judgement, drawing on some mix of economic theory and operational evidence (row 9). Finally there are what may be called *non-experimental* "evaluations", lacking any explicit counterfactual and simply reporting outcomes for participants, such as job placement rates (row 10)[1].

Theoretical sophistication and data requirements decline across the rows in Table 2, from the exacting data requirements and econometric modelling of highly and quasi-experimental methods, respectively, to the limited controls, and even low awareness of the counterfactual, of weakly experimental methods. Speculative methods are particularly susceptible to perceptual and political biases amongst agents or experts. Non-experimental methods prove effectively worthless in practice (Gay and Borus, 1980)[2].

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[1] Different terminologies are used for the first two methods by Heckman and Smith (1995), which they term the "experimental" and "non-experimental" respectively, and by Leamer (1983) who terms them "social experiments" and "natural experiments" respectively. The scientific limitations of social experiments, which Heckman and Smith emphasise, and the potential contribution of the less experimental methods, which Heckman and Smith ignore, favour the wider ranging terminology adopted here.

[2] The evaluation methods outlined in Table 2 comprise varying mixes of individual and group data. The more experimental methods have been discussed here as applying to individual data, the less experimental ones, to grouped, data, consistent with general practice in each area. Such patterns are however far from binding, as illustrated by the use of grouped data with experimental attributes in research on minimum wages and individual data in international comparisons (Card and Krueger, 1995; Blanchflower and

All but one of the evaluations of labour market programmes reported in Table 1 rely upon highly experimental methods. Random assignment has become the norm in officially sponsored evaluations of public programmes in the US. Only the oldest evaluation, that of the Job Corps, belongs to the quasi-experimental category, and it contained no correction for selection bias.

2.2.2. The limitations of quasi-experimental methods

The ability of quasi-experimental methods to control effectively for selection bias remains a matter of concern. The effectiveness of such methods depends upon good measures of the other relevant differences between participant and comparison groups, so that the true variation in the key factor, treatment by the programme, can be distinguished from other influences.

The data-sets commonly available for econometric analysis inevitably provide only a limited guide to individual differences in labour quality. The duration of schooling, training and labour market experience are commonly observed, but the quality of such human investments, as well as the ability and motivation of the recipients are invariably unobserved - and potentially the more important influence upon labour market outcomes. Econometric analyses which control only for observable differences in labour quality (Table 2, row 3) are therefore widely recognised as subject to adverse selection biases, as when the apparent benefits of a programme reflect the superior motivation or ability of participants relative to members of the comparison group rather than programme effects themselves.

Under such conditions, it has become common practice to counter selection biases by "controlling" for unobserved differences in labour quality (row 2). Considerable ingenuity has been devoted to developing indirect information about unobservables, notably from the participation decision itself or from the previous earnings records of participants and controls. Thus participation in the programme or the receipt of high pre-programme earnings may provide indirect evidence of superior individual ability and motivation which can be used as proxy measures of unobserved ability and motivation to enter as control variables into regression analysis of programme outcomes.

The prospects for the success of such efforts are however routinely overestimated, as illustrated by the frequency with which analysts report having "controlled" for selection bias. It is not just that the appropriate correction depends on the nature of time- as well as person-specific unobservables, concerning both of which assumptions have to be made. It is also intrinsic to the "heroism" of the attempt to infer the unobservables in one relationship from those in another. In the ingenious and widely adopted Heckman (1979) approach, unobserved labour quality is measured indirectly through the unexplained components (residuals) in participation decisions, which are then used as an independent variable in the outcomes equation, providing the measure of unobserved labour quality which removes specification bias from the programme participation variable.

In order to appreciate the limitations of that procedure, imagine a situation in which a)

the unobservables in labour quality (motivation, ability) are more important for labour market outcomes than are the observables (schooling, experience) and b) the unobservables which matter for programme participation (motivation) differ from those which matter for labour market outcomes (ability). The former means that the unexplained (residual) components in the participation equation will be large relative to the explained ones and that low statistical precision will result from their use in the outcomes regression - as commonly proves the case in practice. The latter means that the residuals in the participation equation are intrinsically an inadequate guide to the unobservables in the outcomes equation: no matter how good the indirect proxy for motivation, if it is ability rather than motivation (or schooling quality, etc.) which matters for labour market outcomes, or vice versa, the residuals from the participation equation do not control for unobserved labour quality when inserted into the outcomes equation. Neglect of the latter issue has contributed to undue optimism about the prospects for removing selection bias.

The findings of econometric research have also been shown highly sensitive to both the assumptions made about the process of selection into the programme and to the choice of comparison group (Lalonde, 1986; Fraker and Maynard, 1987). These two problems can be reduced, respectively, by using specification tests to determine selection processes and by selecting matched comparison groups only from eligible individuals living in the same labour markets as participants (Heckman and Hotz, 1989; Heckman, 1993). For the reasons mentioned above, however, it is unrealistic to expect robust estimates of programme effects even after implementing such techniques.

2.2.3. Identifying variation

Implementing the counterfactual requires adequate variability in the causal variable of interest. If it doesn't vary at all, its effects cannot be isolated. Data must be generated or selected so as to provide adequate identifying variation.

The closer the approximation to experimental conditions, the less the prospective difficulty, as an experiment ideally alters the key variable (e.g., programme participation, minimum wage coverage) while holding other influences constant, while weakly experimental methods are potentially distorted by a range of uncontrolled influences. The results of "before and after" comparisons, for example (Table 2, row 6), are notoriously affected by economic fluctuations during the interval in question.

In practice things are more complicated than that. Social experiments fall short of the purity of the laboratory ideal. Two difficulties are particularly relevant here. Non-participants often gain access to services similar or identical to those received by participants (substitution bias). Moreover, "participants" frequently fail to receive programme services in the first place (because, e.g., of dropping out between assignment to the programme and access to services). The difference in effective treatment status between the participant and control groups - i.e., the identifying variation - then shrinks and may even disappear altogether, as appears to have been the case for females under JTPA Title II youth programmes (Heckman and Smith, 1993 and 1995, Figure 2). The possibility that the programme has been inadequately

implemented in the first place is of course the domain of process- rather than outcome-oriented evaluations (e.g., Lee et al., 1990).

Quasi-experimental evaluations may also be handicapped by inadequate identifying variation. The same problems of participant non-access and non-participant access to programme services apply in principle to quasi- as to highly experimental evaluations. In conclusion, quasi-experimental evaluation research must not be dismissed as futile. Its combination of insistent questioning, technical sophistication and optimism about the ultimate measurability of human attributes are distinctive and even appealing characteristics. The claims made on its behalf tend however to the over-optimistic. The point then is that, given the informational limitations of both quasi and highly experimental methods, the evaluation door must be left open for contributions from weakly experimental methods as well.

In particular, weakly experimental methods sometimes compensate for the absence or inadequacy of their control variables with a greater identifying variation in the variables to be evaluated. Comparative and historical evidence may in this respect prove richer than microdata drawn from a single period and place - particularly when it is institutions, such as apprenticeship, rather than particular policies, such as the Job Corps, which are being assessed (Ryan, 1991). Moreover, the limitations of weakly experimental methods may be reduced by combining approaches, as when changes over time are used in international comparisons in order to control for invariant national characteristics (Marsden and Ryan, 1991).

The conclusion is that no single method offers conclusive evidence; that, although highly experimental methods often come closest to providing conclusive evidence, differences between the various methods are a matter of degree rather than kind; that multiple methods and sources of evidence are therefore preferable to single ones; and that weakly experimental methods may be valuable for research into institutional issues[3].

2.3. Labour market assumptions

A third methodological issue concerns assumptions about the labour market. Almost all US evaluation research assumes, explicitly or implicitly, that the relevant labour markets conform to the perfectly competitive norm. The implication is all wages and salaries equal the value of both marginal products and leisure at the margin, providing the measures of both the productivity effects of training (gains in pay) and the opportunity costs of trainee time (foregone earnings and leisure) for use in, e.g., the cost-benefit studies reported in Table 1.

A further implication is that the benefits of a programme can be measured directly and exclusively in terms of the subsequent labour market fortunes of participants. There

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[3] Leamer (1983) treats highly experimental methods as superior to quasi-experimental ones but as a "matter of degree rather than kind"; notes that "it would be a remarkable bootstrap if we could determine the extent of misspecfication from the data", as quasi-experimental methods commonly attempt to do; and calls for economists to put "more effort into identifying qualitatively different and convincing types of evidence" when specification bias refuses to yield.

are two important corollaries here. The first, simpler one is the absence of *production externalities*, i.e., effects on the productivity of other workers. As a perfectly competitive labour market pays each worker exactly the value of his or her marginal product, no benefits from increasing a participant's labour quality accrue to other agents and no attempt need be made to estimate such external effects. That assumption runs counter to, *inter alia*, endogenous growth theories, in which investment in an individual's human capital brings potentially significant external benefits to other economic agents (Romer, 1996, chapter 3); and to much applied research on the benefits of training to economic performance at both sectoral and national level (Steedman and Wagner, 1989).

For the kind of training involved in US youth programmes, the second corollary is perhaps more important: no *displacement bias* in estimated programme effects. Displacement occurs either when ex-participants replace non-participants within a scarce overall supply of jobs or when non-participants who would otherwise have been idle fill jobs which have been vacated by participants while active on the programme. In each case, jobs are scarce relative to qualified workers. When jobs are scarce, any post-programme gains in earnings for participants may come at the expense of those of displaced non-participants; and time spent in the programme by participants does not impose an output cost on the economy when otherwise unemployed non-participants fill the jobs which participants would otherwise have performed. In both cases effects on non-participants drive a wedge between effects on participants and those on the wider economy.

Evaluations which ignore displacement may therefore be subject to bias. Cost-benefit analyses which ignore displacement during the participation period potentially underestimate net benefits, as the opportunity cost of participant time is overestimated; those which ignore it after participation overestimate net benefits, as increases in aggregate output attributed to ex-participants are overestimated. The two biases work in opposite directions. In perfectly competitive equilibrium, however, involuntary unemployment is assumed absent and displacement becomes a second order phenomenon, comprising only minor changes in marginal products as employment adjusts in the markets from which participants are drawn and to which they are sent.

In the presence of involuntary unemployment, by contrast, displacement may become a first-order matter. Consider two types of programme. Firstly, a programme may simply recycle participants within the same market segment, e.g., that for low skilled labour. Displacement is then high on both counts, with indeterminate effects on net benefits. Secondly, a programme may move participants from surplus to deficit markets, such as those for unskilled and skilled labour respectively. Other employment is displaced then only while participating, as ex-participants fill long-duration job vacancies without displacing other workers. Net benefits then are underestimated if displacement is ignored. Work experience programmes for unskilled workers typically fall into the former category; occupational training programmes in scarce skills, into the latter (Johnson, 1979).

Although displacement is often taken *a priori* to be widespread (Solow, 1990; Haveman and Saks, 1985), appropriate information is rarely available, and it is seldom

considered in practice, even in the cost-benefit evaluations to which it is particularly relevant. Perfect competition justifies such a simplification only to the extent that it is itself a plausible assumption. As is increasingly recognised in contemporary labour economics, US labour markets are segmented by variations in employer strategy and employee power. Access to good jobs is rationed; pay is then an invalid guide to both labour quality and opportunity costs (Katz and Summers, 1988; Lindbeck and Snower, 1988; McNabb and Ryan, 1990).

These inconsistencies between the implicit assumptions of programme evaluation and economic analysis suggest that the reliance of contemporary US evaluation research on the employment experiences of participants and their statistical counterparts in comparison groups represents a major over-simplification, which, in the absence of wider evidence, casts considerable doubt on the validity of the results reported in, e.g., Table 1.

3. EVALUATION FINDINGS

This section reviews briefly the findings of evaluation research, drawing wholly on US evidence on two policy areas - labour market programmes and vocational education - and varied national evidence on a third - apprenticeship. The three areas are chosen with a view to the differing evaluation methodologies which predominate within each.

3.1. Labour market programmes

Labour market programmes in the US are aimed at improving participants' labour quality, by way of services drawn from the spectrum which runs from remedial education, through occupational and job training, work experience and assisted job search, to counselling and personal support services.

In terms of scope, most evaluations in the US, as elsewhere, have been academic "single outcome", quasi-experimental studies (Kiefer, 1979; Farkas et al., 1983). This research has been joined during the past decade by the highly experimental cost-benefit assessments, some of whose findings were discussed in the previous section. Weakly experimental methods have become rare, though previously common (Levitan and Johnson, 1975).

Evaluation findings tend to become less favourable to programmes as research methods rise up the hierarchy in Table 1. Simpler methods, such as gross outcome reporting and before-after comparisons, often conclude that programmes have worked. At the other extreme, experimental evaluations of youth programmes have found few or no lasting benefits to participants. Turning first to "single outcome" research, the standard outcome measure is the gain in labour earnings, comprising increased hourly pay or longer hours of work, or both. Measuring outcomes at intervals varying between 1.5 and 9 years after entering the programme, none of four programmes for disadvantaged American youths, which have been subject to highly experimental evaluation, appears significantly to have affected the *subsequent* earnings of participants (Ryan and Büchtemann, 1996, Table 2).

The picture remains unfavourable to youth programmes when the scope of the

evaluation is widened to cost-benefit analysis, as has by now been done for four major programmes (Table 1, above). Positive social net benefits have indeed been estimated, at $2 300 per participant in the late 1970s, for the long running, intensive Job Corps, associated in particular with increased earnings and reduced juvenile criminality. Another bright spot is the gains in educational achievement generated under JTPA and Jobstart.

The same GED (General Educational Development) test scores which suggest increased educational attainments show however low validity and influence on subsequent employment (Grubb, 1995). The gains associated with the Job Corps are also suspect, as they were generated by quasi-experimental rather than highly experimental methods and negative net benefits have been found by all three of the highly experimental evaluations. Supported Work, Jobstart and JTPA Title II-A show at most small post-programme earnings gains, limited and even perverse effects on crime rates and drug use, along with significant resource costs of the programme in the first place.

Considerable uncertainty attaches to the best estimate of net benefits for each programme, and none of the research has paid serious attention to displacement effects. However, displacement biases could go either way for programmes such as these, and the results for Supported Work and JTPA do at least prove robust with respect to alternative assumptions. Apart from the question mark attached to the Job Corps, programmes for young American workers - unlike those for some other clienteles, notably adult welfare recipients - are nowadays generally judged to have failed (Heckman et al., 1994; Grubb, 1995 and 1996).

The findings of quasi-experimental evaluations of particular programmes vary according to how comparison groups are chosen and outcome effects modelled. Thus, the estimated effects of Supported Work on youth earnings up three years after participation, negligible in highly experimental evaluation, varied between minus $300 and minus $1 900 in quasi-experimental studies (Lalonde, 1986; Fraker and Maynard, 1987). The sensitivity of results to the choice of economic model and comparison group has largely discredited the findings of this generation of research. It has indeed been shown that, in one instance at least, the range of eligible findings can be narrowed drastically by using specification tests and restricting comparison groups to eligible non-participants tied to the same local labour markets (Heckman and Smith, 1995). Nevertheless, confidence in standard quasi-experimental methods remains low, undermined by the incoherent and unstable patterns of benefits across sex/ethnic categories which characterised that previous generation of research (Betsey et al., 1985; Barnow, 1987; Heckman and Hotz, 1989).

These difficulties provide a caution to the contemporary reliance on simple quasi-experimental methods in European academic research, particularly as their findings cannot normally be compared to those of social experiments. Thus evaluations of the most intensively studied youth programme in Europe, Britain's Youth Training Scheme, exhibit the variability from study to study which proved typical of quasi-experimental US evaluations using similar methods. Estimated wage effects for YTS vary between -8 per cent and more than +20 per cent. Employment effects have mostly been inferred to be positive, but not all studies consider selection bias and one

study reports significantly negative employment effects (Ryan and Büchtemann, 1996, Table 5). One simply cannot tell from such evidence whether or not YTS raised the earning potential or employability of participants. Such differences in results may of course arise from differences in the periods involved, which create differences in market conditions and programme attributes from one study to another. The alternative explanation, suggested by US research experience, looks to differences between studies in the assumptions made about earnings determination and programme selection, given the particular difficulty of generating adequate comparison groups for econometric evaluation of the large scale entitlement programmes typical in Europe.

3.2. Vocational education

Other policies address the school-to-work transition from the schooling side, with a dominant interest in closer links between schooling and work. The perceived failure of youth labour market programmes has encouraged interest in the US in policies aimed earlier in personal development, while young people are still full-time students (Grubb, 1995 and 1996). Such policies have implications for personal development, but they are typically judged on the standard efficiency-related criterion outlined above: do they improve downstream labour market outcomes for participants?

Five policy strands may be distinguished in this area: increased general educational attainment, vocationalisation of educational curricula, apprenticeship, closer links both between schools and employers, and careers guidance and other support services (Stern et al., 1995). This discussion concentrates on vocationalism and apprenticeship. Both attempt to improve learning by linking it to work; apprenticeship seeks also to improve training by linking it to formal education.

The only well established research area within this rapidly growing field of US educational practice concerns traditional vocational education. Highly experimental methods are not as readily adopted as for labour market programmes, as norms of entitlements and obligations in access to options in public schools often debar any withholding of services from randomly selected control groups. Rare exceptions include an optional summer programme for disadvantaged 14-15 year olds, admissions to career magnet schools in New York and, currently, integrated vocational and academic curricula in the "career academies" whose goal is to replace traditional vocational education with a creative fusion of general and technical education (Sipe et al., 1988; Crain et al., 1992).

Quasi-experimental methods, by contrast, have long been used to study the links between pay and schooling, using the earnings functions of human capital analysis (Mincer, 1974). Selection biases associated with ability and family background have been estimated in that context (Willis and Rosen, 1979). Less sophisticated methods still dominate the school-to-work agenda. Single outcome evaluations predominate, with only occasional use of even rudimentary cost-benefit analysis (Stern et al., 1989). Regression analysis of individual life histories has become the norm in US research on the effects of vocational studies on labour market outcomes, but as comparison groups often differ radically from participants and correction for selection

bias remains unusual, only limited confidence can be placed in its findings[4].

The effects of opting for vocational programmes in secondary and post-secondary schooling have been extensively studied in the US. The long-established view that traditional occupational training in high schools has neither strong nor consistent effects on the earnings of its recipients has been widely supported by recent research (Table 3). Some studies find that choice of vocational courses is associated with mildly positive effects on subsequent pay for either males or females - but not consistently for one or the other, an incoherence which brings to mind the erratic results of quasi-experimental evaluations of labour market programmes. Gains in pay also appear to characterise the minority of vocational high school students which subsequently works in the occupation for which it was trained in school.

Low or zero personal gains from vocational studies in US high schools may of course reflect either selection bias or low educational value added, or some mix of the two. Vocational programmes tend to be taken by the less academically able, so studies which ignore selection by ability can be expected to underestimate benefits to participants. A study which corrected for selection bias found that only commercial courses raise pay, and then only moderately and for a predominantly female clientele (Altonji, 1992). Secondly, vocational courses may well teach little of use. The lack of national standards against which to judge educational attainments in US vocational education, in contrast to the situation in Germany, e.g., means that the information flows and incentives which might spur pupil achievement are absent, encouraging low educational aspirations and skill outputs (Boesal and McFarland, 1994). The higher resource costs of vocational than of general curricula then prospectively overwhelm any benefits to participants and society as a whole, although cost-benefit analysis has not been used to clinch the point (Psacharopoulos, 1987).

Disappointing results do not necessarily generalise to the more ambitious variant of vocationalism, which seeks to integrate academic and vocational strands into a full technical education, rather than simply settling for the pre-employment training of traditional "voc ed". Kang and Bishop (1989) infer complementarity between vocational and academic secondary studies from evidence that specialisation in vocational studies is associated with lower earnings prospects - though uncontrolled selection may bias the finding. Two US initiatives which respond to the new vocational ideal, career academies in California and career magnet schools in New York, have been found to raise educational participation and achievement, relative to those of matched comparison group members and random controls respectively (Stern et al., 1989; Crain et al., 1992). The Deweyian goals of such programmes are comparably ambitious to the Bildung ideal in German education. Research has yet to investigate whether their benefits prove durable and outweigh their costs.

The benefits of vocational programmes have also been evaluated at post-secondary level in the US. Vocational associate degrees - offered by the two-year community

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[4] It has been argued that this neglect of selection may well cause little bias, insofar as educational selection operates on multiple, mutually offsetting criteria - as when vocational education selects for abilities and higher education for intellectual abilities - but there is no assurance that such self-canceling patterns will prevail in general (Willis and Rosen, 1979).

colleges whose growth has been so rapid in recent years - appear to confer only limited benefits on participants: medium-term gains in earnings disappear once controls are introduced for subsequent training and work experience (Grubb, 1993). Correction for selection bias, a rare feature in this literature, does suggest positive earnings effects, but for women only (Zilbert et al., 1992).

The findings of US evaluation research are therefore less clear-cut for vocationalism in formal education than for youth labour market programmes. The most ambitious programmes are still too recent to have been evaluated yet. The bad reputation of traditional vocational education has been largely supported by evaluation research, but limited effort to deal with selection biases, along with the greater difficulty of dealing with them for such entitlement programmes, creates doubt about the value of those results.

3.3. Apprenticeship

The relative unimportance of apprenticeship in the contemporary US, where its availability is limited largely to younger adults in construction, is reflected in the paucity of evaluations of its benefits in the American literature. That is beginning to change, in the face of rising interest in apprenticeship as a potential contributor to the institutional range of school to work options for American youth (Hamilton, 1990).

Highly experimental evidence has not been generated for apprenticeship, but quasi-experimental research with attention to selection bias (Table 2, row 2) has found positive associations for US workers between apprenticeship and subsequent earnings (Lynch, 1992). The difficulty of evaluating apprenticeship in the context of low overall incidence and high sectoral specificity means that other sources of evidence are particularly valuable, with international comparisons in the lead. Quasi-experimental evaluations, comparing outcomes in different national datasets, suggest similarly positive earnings gains from apprenticeship in the UK and Australia as well as the US - though thus far without modelling of potentially crucial selection processes for countries other than the US (Table 3). Apprenticeship appears not to have benefited female participants in the UK, a finding consistent with the confinement of female apprenticeships to the low paid hairdressing sector. For males, the contribution of apprenticeship to higher pay may reflect partly its ticketing of entry to occupations and sectors which offer high rents. As, however, wage gains prove no lower in non-union than in union employment, significant skill development may be inferred in both cases (Tan et al., 1991; Blanchflower and Lynch, 1994). Similarly, apprenticeship also appears to have a favourable effect on employment probabilities in French microdata, even after controls for selection bias are implemented (Bonnal et alii, 1995).

Weakly experimental evidence, particularly international comparisons, also favours apprenticeship. The experiences of German youth, relative to those of American youth in twelve years' panel data from both countries, suggest that apprenticeship in Germany - a country in which the broad coverage of apprenticeship makes its econometric evaluation particularly difficult - leads to both lower unemployment in the school to work transition and a better match between skill demand and supply (Büchtemann et al., 1993). Similarly, European countries which feature extensive

apprenticeship, as compared to those with less institutionalised forms youth induction and training, have enjoyed more favourable youth employment and unemployment patterns (Marsden and Ryan, 1990).

The evaluation of apprenticeship depends therefore on a wider range of more diffuse evidence than is the case for either labour market programmes or vocational education. Although such evidence cannot be conclusive, the fact that the bulk of that evidence suggests that apprenticeship benefits its participants amounts to a potentially valuable research finding.

4. CONCLUSIONS

This paper has discussed the evaluation strategies which predominate in contemporary US evaluation research. The findings of that research have been reviewed for three separate aspects of school to work transitions: vocational education, apprenticeship and labour market programmes.

Evaluations of school-to-work issues have mushroomed in the US during the past two decades. Their sophistication has grown rapidly, with randomised selection and cost-benefit analysis becoming the norm for labour market programmes.

At the same time, the informational limitations of evaluation methods, even the most technically sophisticated, have been underlined by recent US controversies. That fact alone points to the potential value of less elaborate methods using weaker controls for other influences. In practice, the quasi-experimental and weakly experimental literatures have paid little attention to each other. We have juxtaposed them, seeing each as important and the two as complementary in school-to-work evaluation. The weakly experimental evidence provided by, e.g., international comparisons, is of particular value when the subject of the evaluation is an institution which varies primarily across time and country rather than within a country at a particular time - as is the case from an American standpoint for apprenticeship in particular.

Contemporary debates in the US have helped to sharpen the questions facing evaluation research and discourage any overstatement of the contributions of weakly experimental methods. From the European perspective, the US literature throws into relief the limited value of the "single outcome" quasi-experimental studies through which European academic research nowadays increasingly imitates its antecedent US equivalent, as well as the inadequacy of the process-oriented evaluations which are still accepted by government at both national and EU levels, when indeed any evaluation is officially sponsored in the first place.

On the substantive side, US research findings have proved mostly unfavourable to mainstream policy interventions aimed at young people. Negative conclusions are almost unavoidable for labour market programmes in the US, which have been found generally to provide less benefit to youths than to adults, when they offer any at all, and which have mostly been associated with efficiency losses in the aggregate. Similarly, standard vocational courses offer no consistent or durable benefits to young people.

The results are not uniformly negative. The significant benefits found for the Job Corps may yet survive highly experimental evaluation. On the equity-related criterion of making participants better off, programmes such Supported Work show merit even though they produce no lasting national benefits, and that has often been considered sufficient in Europe.

The problem with youth programmes in the US may well arise from the combination of a disadvantaged clientele and shallow measures - though others have concluded that effective public intervention is impossible (Wilensky, 1992; Heckman et al., 1994). Were the more optimistic interpretation correct, net benefits might still be generated, even for the same clientele, by more ambitious measures. Two contrasts between shallow and deep approaches are relevant here: firstly, between apprenticeship and labour market programmes, and secondly, between technical education and vocational schooling. Although the evidence is often weak, benefits have been attributed to apprenticeship by a variety of evaluative methods, and similar findings may emerge from current studies of "career academies" and related attempts to fuse general and vocational studies in secondary schools. In each contrast, the more ambitious option aspires to a greater development of knowledge and skills than do standard vocational curricula or labour market programmes. The more ambitious option might succeed even when the less ambitious one has been found to have failed. Moreover, both approaches attempt to train for intermediate skills, where a serious contribution to reducing skill shortages might be anticipated - and for which displacement probably leads to the underestimation of benefits, at least for a labour market based programme such as apprenticeship.

A proposal for deeper policies must however address three issues. The first concerns institutional development. Apprenticeship and the low youth payroll costs upon which it depends can flourish only with widespread support amongst key players (employers, employees, government and youth) and with appropriate institutional development, to deal with free riding by employers in particular (Streeck et al., 1987; Marsden and Ryan, 1991; Garonna and Ryan, 1991; Soskice, 1990). The task is correspondingly great, particularly in countries which lack effective systems of employer co-ordination and employee representation.

Secondly, the most disadvantaged young people are unlikely to benefit personally from apprenticeship and technical education. Even in Germany, youth apprenticeships fail to reach around ten per cent of school leavers, to whom standard labour market programmes are offered instead. But deeper interventions may still be of benefit to the most disadvantaged young people. The costly, intensive services provided to them by the Job Corps in the US context have, thus far at least, been evaluated as long-term benefits to both participants and society. Moreover, even were those long-term gains prove illusory in more detailed evaluation, a strong case must still be made in equity for helping the worst placed young people.

Finally, deeper policies also require evaluation. The task is more daunting for programmes which involve institutional development than for standard programmes. It can however be addressed with a variety of research methods, weakly as well as quasi-experimental. If evaluation research is confined to the more accessible issues, the bigger issues ones will be left to casual speculation and unduly pessimistic

conclusions may then be reached about the potential for beneficial public intervention.

Table 1
Cost-benefit analyses of US youth labour market programmes: net benefits by category, size and distribution

| Program | Evaluation Attributes | | Net benefits ($ current) per capita | | | Benefit categories | | | |
	Period covered	Method	Partici-pants	Non-particip-ants	All (4)+(5)	Earn ings	Educat. Achiev.	Crime and Drugs	Welfare receipt
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Job Corps	1977-79	QE	+2485	- 214	+2271	+	n.a.	+	+
Supported Work	1975-79	HE	+ 891	-2355	-1464	0	n.a.	0	n.a.
Jobstart	1985-88	HE	+ 254	-4540	-4286	0	+	0	0
JTPA Title II-A	1987-89	HE	- 620 (M)	-2824	-2904	0	+	-	0
			- 83 (F)	-1087	-1170	0	+	0	0

Sources: Long et al. (1981), Table 6; Kemper et al. (1984); Cave et al. (1993), Tables 2,6,7 and 7.9; Bloom et al. (1994).

Notes: by column,
(1) Job Corps is residential programme for most disadvantaged 16-20 year olds, involving primarily general and vocational education, and counselling;
Supported Work services included work experience, personal support and job search assistance;
Jobstart and JTPA Title II services included remedial education, occupational training, work experience, job search and personal support services
(3) HE and QE denote highly experimental and quasi-experimental research design respectively (Table 2, below)
(7-10): +,0,- indicate respectively presence of (statistically) significant benefit, no effect and significant loss, at p=.05

Table 2

Evaluation methods, by means of implementing the counterfactual

	Experimental status	Choice of control/ comparison group	Adjustment to mean difference in outcomes
(1)	high	individual control group, randomly assigned	none
(2)	quasi	individual comparison group, structural model	adjusted for observables and unobservables
(3)			adjusted for observables only
(4)	weak	a. participants in other programs	none
(5)		b. participants from other age group/sex	none
(6)		c. participants' own history (before/after)	none
(7)		d. similar groups in other countries	none
(8)		e. agents' speculations	speculative
(9)		f. experts' interpretation	n.a.
(10)	zero	gross outcomes	n.a.

Table 3
Evaluations of work-related attributes in schooling

Attribute/ program	Study	Evaluation method	Place and year of treatment	Time lapse (yrs)	---- Effects on ----		
					Educn'l achiev.	Wages	Empl.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Vocational courses: (a) secondary	Meyer and Wise (1982)	QE (3)	1969-72	1-4	-	0	0
	Rumberger and Daymont (1984)	QE (3)	1972-79	0-3	n.a.	M: 0 F: +	M: + F: +
	Kang and Bishop (1989)	QE (3)	1976-80	0-2	n.a.	M: + F: 0	M: + F: +
	Ziderman (1989)	QE (3)	Israel 1961-4	6-13	n.a.	0	
	Altonji (1992)	QE (2,3)	1969-72	12	n.a.	0, +[a]	n.a.
(b) post-secondary	Grubb (1993)	QE (3)	1972-	0-12	n.a.	M,F: 0[b]	
	Zilbert et al. (1992)	QE (2)	1980-	0-3	n.a.	M: 0; F: +	
Apprentice-ship	Tan et al. (1991)	QE (3) NE (7)	US UK Aus 1970s	n.a.	n.a.	+	+
	Blanchflower and Lynch (1994)	QE (2) WE (7)	US: 79-86 UK: 64-81	11-19	n.a.	M: + F: 0	n.a.
	Bonnal et alii (1995)	QE (2)	Fr: 1986-8	1-10	n.a.	n.a.	+
	Marsden and Ryan (1990)	WE (7)	EC 1966, 72, 78	0-3	n.a	n.a.	+
	Büchtemann et al. (1993)	WE (7)	US, FRG 1973-90	6-9	n.a.	n.a.	+

Notes:
a. Industrial and commercial courses respectively
b. controls for subsequent job training and work experience
col (3): HE,QE, WE indicate highly experimental, quasi-experimental and weakly experimental methods respectively (Table 1)
(4): place is US unless otherwise specified
(6)-(8): +,-,0 indicate statistically significant increase, decrease and no significant effect, respectively, using conventional tests.

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POTENTIAL USE OF THE COMMUNITY LABOUR FORCE SURVEY IN THE ANALYSIS OF THE YOUNG

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Abstract

The paper presents some empirical illustrations of the situation of the Young in the European Union. Data are drawn from the Community Labour Force Survey (LFS) which is a yearly household survey mainly covering labour market issues. However, the LFS can also provide quantitative information for the analysis of young people as it does not only cover persons in the Labour Force.
Firstly, it can be used to measure the increasing participation in education of the Young over time. Secondly, the survey can be used to examine who benefits from further studies. It appears that social background still plays a significant role in this while gender differences have tended to disappear. Thirdly, the LFS can shed some light on the analysis of the transition from school to employment itself. It seems that basically two different systems exist in the EU. In some countries, a lot of young people leave school quite early (United Kingdom) or at least leave full-time education (Germany, Netherlands, Austria and Denmark) to enter into the labour market at the age of 18 (or sometimes before). In the rest of the Union, most young people are still in initial formal education and the entry into activity is much delayed. Finally, the LFS is an appropriate tool for assessing the difficulty of entry into the labour market for young people: more unemployment, more job insecurity and more involuntary part-time jobs.

Résumé

Le potentiel de l'enquête communautaire sur les forces de travail dans le cadre de l'analyse des jeunes

Le document présente quelques illustrations empiriques concernant la situation des jeunes dans l'Union européenne. Les données sont tirées de l'enquête communautaire sur les forces de travail (EFT). Il s'agit d'une enquête annuelle sur les ménages couvrant principalement les problèmes du marché du travail ; néanmoins, l'EFT permet également de fournir des informations de nature quantitative sur les jeunes en particulier, du fait qu'elle ne couvre pas uniquement les forces de travail.
Premièrement, l'enquête peut être utilisée pour mesurer la participation croissante des jeunes dans l'éducation. Elle permet également d'évaluer à qui profite le phénomène de prolongement des études ; il apparaît que le milieu social joue toujours un rôle important, alors que les différences par sexe ont tendance à disparaître. L'EFT peut aussi contribuer à mieux saisir comment se fait la transition de l'école à l'emploi dans les différents États membres. Il semble que fondamentalement deux systèmes différents co-existent à l'intérieur de l'Union. Dans certains pays, nombre de jeunes quittent l'école à 18 ans ou parfois plus tôt (au Royaume-Uni par exemple) ou du moins quittent le système éducatif formel à plein temps (Allemagne, Pays-Bas, Autriche et Danemark) pour entrer sur le marché du travail. Dans le reste de l'Union, la plupart des jeunes sont toujours dans le système éducatif formel à ces âges et l'entrée dans la vie active est bien plus tardive. Enfin, l'EFT est un outil approprié pour mesurer les difficultés d'insertion des jeunes dans le monde du travail : plus de chômage, plus d'insécurité et plus de travail à temps partiel non choisi.

This paper aims at giving some empirical illustrations of the situation of young people in the European Union, starting with data drawn from the Community Labour Force Survey (LFS).

THE COMMUNITY LABOUR FORCE SURVEY

Objectives of the survey

The LFS is the most important comparable instrument for all kinds of labour-market related analyses in the EU. It consists of a sample survey carried out annually since 1983 in all EU Member states.
The Community list of questions is defined by the Employment Statistics Working Party and represents more or less a sub-sample of variables from the national labour force surveys.

The main areas covered are:
- the employment characteristics of a person's job(s): occupational status, sector of employment, working hours, working conditions, fixed-term employment, atypical forms of work etc.
- search for employment (ways of searching, since how long, discouraged workers...),
- education and training: current participation, levels attained,
- each person's situation one year before the survey (longitudinal aspect).

The LFS Working Party is currently discussing the future development of the survey, focusing on the introduction of a continuing survey (quarterly ?) with overlapping samples. This would enable a better understanding to be had of the dynamics of the labour market and particularly of transition from school to employment.
The inclusion of selected income questions is also expected.

Advantages and limits

The main advantages of the LFS are:
- comparability of results because of the application of common concepts, definitions and methods,
- large sample size of more than 600 000 households at Union level making possible numerous cross-tabulations since 1983 (in respect of the threshold values due to sampling errors),
- availability of the data in a centralised micro data base in Eurostat.

But in order to be cleverly used, the limits of this tool have to borne in mind.
First of all, as an household survey, the responses highly depend on the way the respondent interprets the content of each question (and the questions can be asked quite differently in the national questionnaires).
Secondly, the survey only covers private household, and thus excludes people living in homes, boarding schools, hospitals, religious institutions, workers' hostels, etc.
Finally, time-series comparison may be affected by the events of the European Union: enlargement with Spain and Portugal in 1986, Former East-Germany joining Europe in 1991, new enlargement in 1994, with Austria, Finland and Sweden joining.

In the context of the analyses of the Young, the current LFS already provides fruitful information on:
- their increasing participation in education: *a structural phenomenon that has been extended to university,*
- the chance of access to education: *the social origin still plays a part despite the fact that gender differences are waning,*
- *their transition from education-work is extended,*
- their insertion into the Labour Market: *80 millions of young are wondering how to get the best opportunities.*

Some basic figures

In 1995, there are around 77 million young people aged 15-29 in the European Union (50 million between 15 and 24).

The distribution of young people in the European Union is roughly the same as the distribution for the whole population; however, some differences may reflect the different intensity of the ageing of the population. For instance, 22.2 % of Europeans live in Germany, whereas the corresponding proportion is only 19.7 % for the young. On the other side, Spain counts for 12.2 % of the young population and only 10.7 % of the Union population.

Table 0.1
Distribution of young people in the European Union, 1995

EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
100 % 15-29 years **76,7 millions**	2.7 2.1	1.4 1.1	19.7 15.1	2.7 2.1	12.2 9.3	15.1 11.6	1.1 0.9	16.8 12.9	0.1 0.1	4.3 3.3	2.2 1.7	2.9 2.2	1.2 0.9	2.1 1.6	15.4 11.8
Total pop. 100 %	2.8	1.4	22.2	2.8	10.7	15.5	1.0	15.5	0.1	4.2	2.2	2.7	1.4	1.7	15.8

Young people aged 15-29 represent a quarter of the population aged 15 or more in the European Union. This proportion varies from 22.4 % in Germany to 32.4 % in Ireland.
This proportion calculated on different populations defined according to the status on the Labour Market already indicates different patterns.

The share of the young in the employed population is also around 25 % and is relatively important in Denmark, Germany, the Netherlands, Austria and in the United Kingdom.

Among the unemployed in EU, more than 44 % are aged 15-29; the highest proportions are in Italy (61.4 % of the unemployed), Greece (57.6 %), Spain (51.2 %). Germany is by far the country where the share of the young in unemployment is lower (24.7 %).

Table 0.2
Share of young people aged 15-29 years
in the population aged 15 or more, 1995 (%)

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Population 15 or +	25.5	24.8	25.3	22.4	24.4	28.9	25.6	32.4	27.1	25.1	26.8	26.1	27.2	23.3	25.9	25.6
Employed	25.5	24.6	29.4	24.9	21.8	26.4	22.7	32.4	24.6	27.1	31.1	30.9	23.8	19.8	21.9	28.3
Unemployed	44.5	43.6	40.9	24.7	57.6	51.2	42.4	44.7	61.4	46.9	44.5	37.9	46.1	41.2	39.2	44.7
Inactive	23.0	23.3	16.2	19.1	23.8	26.1	26.3	30.8	25.4	22.4	19.2	18.7	29.6	23.0	32.2	19.0

1. YOUNG PEOPLE STAY LONGER IN EDUCATION

1.1. A structural phenomenon

1.1.1. The significant reduction in participation in the labour force of young people under 25, is associated with a large (and continuing) increase in the proportion of those remaining in education; Among people aged 15-24 of the European Union, 48.9 % were receiving education or training in 1987 vs. 58.5 % in 1995.

Table 1.1
Status of young people aged 15-24 between 1987 and 1995 (%)

		EU	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK
Employed														
	1987	33.9	30.9	31.1	34.4	27.2	26.0	32.7	36.6	30.5	48.4	30.5	47.0	43.6
	1992	30.9	29.7	27.3	34.4	27.0	26.5	25.6	32.4	29.8	46.1	27.8	39.9	37.0
	1995	27.1	24.8	26.1	29.1	25.3	21.5	20.6	31.9	24.6	34.3	26.0	31.7	38.6
Unemployed														
	1987	10.2	8.3	4.6	3.7	8.3	17.1	11.0	13.0	14.5	2.7	5.0	8.7	9.6
	1992	7.5	4.4	5.3	2.8	8.1	11.4	8.0	9.5	10.6	1.1	2.1	3.8	9.0
	1995	8.3	6.6	3.1	3.8	9.3	13.2	8.8	7.5	11.2	2.6	3.2	5.4	8.1
Inactive														
	1987	7.0	4.5	3.4	4.5	13.6	8.1	5.1	4.9	9.9	4.6	4.1	9.1	7.9
	1992	6.6	3.9	5.9	4.4	9.9	5.9	4.3	6.2	11.8	3.3	3.3	6.0	7.5
	1995	6.2	3.7	3.2	4.7	9.3	4.6	3.8	4.5	10.4	4.6	6.3	5.5	7.6
In education														
	1987	48.9	56.2	60.8	57.4	51.0	48.7	51.2	45.6	45.1	44.3	60.5	35.2	38.9
	1992	54.9	62.0	61.5	58.4	55.1	56.2	62.1	52.0	47.8	49.6	66.9	50.3	46.5
	1995	58.5	64.9	67.6	62.5	56.1	60.7	66.8	56.1	53.7	58.6	64.5	57.4	45.7

The school / activity substitution is observed in all countries: the increase of the participation in education coincides more or less with an equivalent diminution of the activity.
In Spain, Portugal and Greece, the rise of the education participation is also explained by an important drop in the purely inactive population.

1.1.2. In fact, this trend is more a long-term process and can be observed over several generations as the **increase in education levels attained** shows.

Table 1.2

Table 1.2
Population aged 25-59 having completed
upper secondary education, 1995 (%)

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
25-29	68,0	72,4	87,9	87,5	66,9	51,0	76,1	65,9	51,3	51,1	85,9	79,6	36,0	86,2	90,1	56,8
30-34	65,2	65,8	84,6	86,7	59,0	42,3	71,1	59,8	48,0	50,2	84,3	78,3	30,6	84,9	85,5	55,3
35-39	62,3	60,1	81,3	86,4	53,3	35,2	64,9	53,6	46,4	49,5	81,9	74,1	28,0	78,6	80,7	56,4
40-44	58,4	55,7	82,2	84,9	46,0	26,5	60,8	44,9	40,4	46,8	79,7	69,0	22,0	68,2	81,0	55,5
45-49	52,5	51,9	78,2	82,5	36,6	19,3	55,9	37,4	31,9	45,2	77,0	66,7	18,6	60,8	71,8	52,2
50-54	49,0	43,3	73,2	80,0	29,2	14,6	48,7	33,4	24,5	43,6	73,3	63,7	14,7	57,1	64,3	46,4
55-59	42,5	35,6	66,0	73,3	23,3	10,6	39,3	29,2	17,2	36,3	68,0	54,9	10,7	44,5	52,8	40,9
All	57,7	56,6	79,8	83,2	45,5	30,1	61,2	48,2	38,1	46,9	79,7	70,8	23,1	69,6	76,4	52,7

1.2. Origins of the phenomenon

1.2.1. Features of the labour market

- *unemployment rates* among those with no educational or vocational training qualifications beyond basic secondary schooling are much higher than for those with such qualifications. Therefore, the chances of finding a job rises with the level of education attained.

Table 1.3
Unemployment rates for people aged 25-59
by level of education attained - 1995 (%)

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
ISCED 0-2	12.4	12.4	10.4	14.2	6.4	21.1	14.1	16.9	9.6	2.9	10.7	6.0	6.4	18.8	8.9	9.8
ISCED 3	8.2	7.7	6.0	8.1	8.6	19.3	9.1	7.5	7.6	2.1	5.8	3.7	6.7	15.5	7.7	7.2
ISCED 5-7	5.9	3.4	4.9	4.9	5.7	14.7	6.5	4.2	7.1	.	4.7	2.4	3.2	8.9	3.5	3.8

- *strong long-term shift in the structure of jobs from less skilled to more skilled.*
In theory, the LFS should be useful to the analyses of this topic. However, the International Standard Classification of Occupations has been changed recently and by consequence, any time-series comparison is made difficult.
Moreover, as a long-term shift, this evolution would only be partially caught by starting from the mid-eighties.

1.2.2. Wishes and demand from families *considering that upward social mobility is closely connected with qualifications.*

It would appear first that educated parents are more likely to demand and invest in education for their children. Secondly, this factor would be repeated through generations and "thus multiplying the benefits of education for future generations" as it is said in a paper from Statistical Division of the Economic Commission of Europe. However, it is rather tricky to measure this from LFS because it only allows parent-children to be studied whilst parent and children inhabit the same household.

1.2.3. Other reasons (non measurable by LFS)

For public authorities, the success of European economies also relies on their ability to improve the general and vocational training of the labour force.
- national targets have been stated (e.g.: 80 % of an age-cohort should get the baccalaureat in France, *National education and training targets* in the United-Kingdom),
- fight against school failure,
- extension of compulsory schooling,
- need to get higher qualifications for some occupations such as nurses, teachers...

1.3. Different forms despite a convergence within the Union

1.3.1. The phenomenon of prolonged studies is stronger within Members states which had lower levels of education (Greece, Portugal, Spain and also Belgium, France) leading to a significant reduction in the differences between countries.

Figure 1.1
**Population having completed upper secondary education
for two different age groups, 1994**
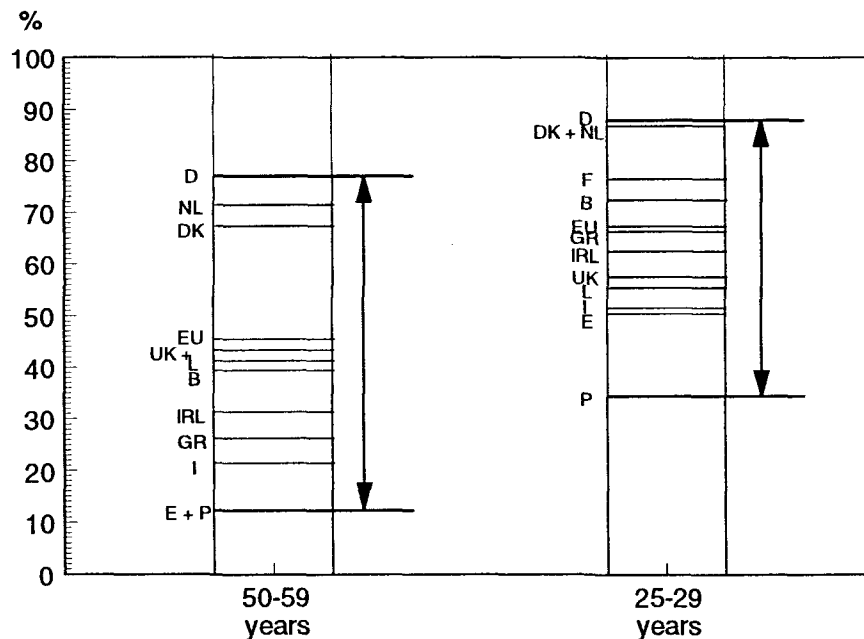
1.3.2. Two types of scholarship (see 3.2)

In some countries, purely scholar structures cohabit with opened continuing training systems in order to allow the acquisition of a degree throughout the whole working life. It is strongly the case in the Nordic countries and in the United Kingdom.

The possibility of re-entered into education after interruption of initial education seems to be quite important in these countries compared to others.

Table 1.4
**People having obtained a university degree
by age groups, 1995 (%)**

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
25-29	19.9	32.5	24.2	16.7	21.5	28.7	26.3	28.0	6.9	19.7	22.6	7.7	12.8	37.7	27.2	22.7
30-34	21.1	29.1	30.2	23.9	20.1	22.2	22.0	23.8	9.1	22.2	25.2	9.9	14.0	38.5	30.6	23.7
35-39	21.0	26.3	31.1	26.1	18.3	18.2	20.0	21.6	10.5	19.7	25.9	11.5	15.0	37.2	31.1	24.0
40-44	20.2	24.1	32.0	26.5	16.1	15.0	18.3	18.7	10.5	20.7	24.4	9.6	13.8	31.5	33.7	24.2
45-49	17.8	22.3	30.0	24.4	12.9	11.9	17.5	16.3	8.6	20.2	22.1	7.4	10.5	27.9	29.6	21.2
50-54	15.6	19.4	23.3	22.7	9.6	9.0	14.0	14.2	6.4	19.3	18.5	6.6	8.9	27.2	28.8	18.6
55-59	12.2	13.7	19.5	18.4	7.6	6.7	9.5	12.2	4.5	15.5	15.9	4.7	6.6	20.1	20.7	15.5
All	18.5	24.7	27.6	22.6	15.4	16.8	18.9	20.0	8.1	19.9	22.7	8.4	11.8	31.9	29.2	21.8

It can be observed that the maximum does not necessary correspond to the younger age groups as it is the case in Denmark, Germany, Italy, Netherlands, Austria and Sweden. In other countries such as France, initial training is more important.

2. EQUAL OPPORTUNITIES

Education is often seen as a mean to eliminate or at least to reduce major social injustices in our societies, such as gender or social inequalities.
The LFS data may contribute to the analysis of these topics.

2.1. Differences between male and female are waning

The proportions of young people taking part in education are virtually identical for young women and men in all Member states. In the European Union, 58.2 % of young males aged 15-24 and 58.7 % of the female were in education in 1995, whereas the respective proportions were 50.1 % and 47.7 % respectively in 1987.

Table 2.1
Young people aged 15-24 taking part in education by gender (%)

		EU	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK
1987														
	Male	50.1	57.4	61.7	59.4	54.9	47.0	51.7	45.3	46.3	47.2	64.8	33.0	41.6
	Female	47.7	55.0	60.0	55.4	47.6	50.4	50.8	45.9	44.0	41.3	56.2	37.4	36.1
1995														
	Male	58.2	64.8	67.8	64.2	56.5	57.5	66.9	54.5	51.8	60.6	66.5	54.6	47.3
	Female	58.7	64.9	67.5	60.7	55.7	64.0	66.6	57.8	55.6	56.4	62.4	60.2	44.1

As a consequence the gap in education level attained that existed between the sexes is narrowing; young women are now attaining educational levels as high as those for men (and even higher in some countries).

However, the LFS does not allow the analysis of differences in educational careers between males and females since no information on fields of study is included in the survey.

Figure 2.1
Persons having completed upper secondary by sex and age groups, 1994
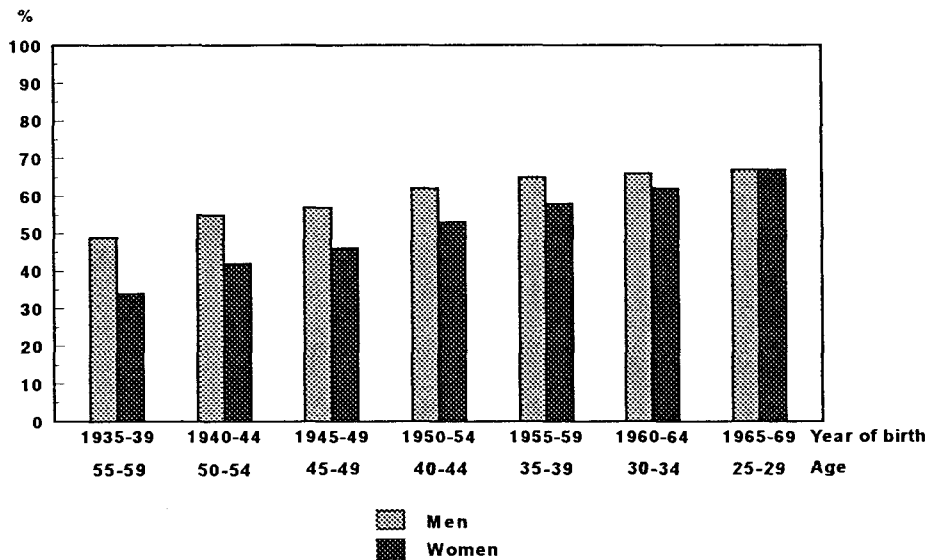
2.2. The inequality of opportunities linked to the family background

The LFS allows for instance the cross-tabulation of the participation in higher education of the young with the educational level attained or with the occupation of their parents (if they inhabit the same household).
In 1995, around two out of three young people aged 19-24 lived with their parents in the European Union; this ranged from one out of two in the United Kingdom to nine out of ten in Spain.

It clearly appears that for these young, their chances of educational success still depends on the amount of schooling their parents have received.

Table 2.2
**Participation in higher education of young people aged 19-24
and occupation of the head of household, 1995 (%)**

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Managers (1-2)	30.7	44.9	NA	29.5	22.7	36.6	38.8	25.8	45.0	.	25.4	22.9	36.1	NA	NA	12.4
Technicians (3)	27.8	38.5	NA	21.1	27.3	34.9	30.3	.	33.5	.	29.2	21.5	36.8	NA	NA	7.8
Clerks (4)	23.7	35.1	NA	18.2	20.6	30.7	23.8	.	27.4	.	25.6	15.3	29.2	NA	NA	7.1
Serv. Work. Crafts (5,7)	13.5	22.9	NA	9.6	9.4	17.0	16.7	12.8	13.8	.	19.5	5.8	14.5	NA	NA	7.0
Elementary occupations (8,9)	10.6	21.2	NA	7.4	7.9	13.8	12.0	7.4	11.2	.	15.9	3.4	10.5	NA	NA	5.0
Agricultural workers (6)	10.1	23.1	NA	7.6	2.4	14.5	11.5	.	10.1	.	.	7.1	7.2	NA	NA	6.1

DK: everybody is coded as the reference person (in Sweden too)
S, FIN: no data on occupation available

3. THE BORDERLINE BETWEEN SCHOOL AND EMPLOYMENT IS MORE VAGUE

3.1. Age of entrance to the labour market

The current LFS does not catch directly this information. However, it is possible to calculate the age for which at least half of the young have entered into the labour market. This age differs considerably within the Union showing clear patterns.

Table 3.1
**Age for which at least half of the cohort
have entered into the labour market (%)**

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
1987	18	21	16	18	21	19	20	18	20	19	18		17			16
1995	20	22	16	19	21	21	22	20	21	21	18	17	21	19	20	17

At the age of 18, more than two thirds of the young are part of the active population in Denmark and in the United-Kingdom; the same proportion is only 9 % in Belgium, 14 % in France and around a quarter in Italy, Luxembourg, Greece and Sweden.

It is the importance of continuing training facilities that explain such differences. Continuing training is remarkably developed in the Nordic countries, whereas initial education and training is still predominant in the rest of the European Union.

As a consequence, the fact that people are active does not necessarily bring about the same result.

3.2. Working while studying or studying while working?

Behind the decline of young peoples participation in the labour market and prolonged studies, different combined status may co-existe.

At the age of 18, only 27.3 % in the United Kingdom and 29.4 % in Denmark are presumably in full-time education; this proportion is also low in Germany, Netherlands and Austria with less than 50 %.

However, the phenomenon is quite different within these countries.

The majority has entirely left education in the United-Kingdom whereas in Germany and in Austria, the importance of the apprenticeship system explains the relative proportion of young people combining activity and education. It seems that in Denmark and in the Netherlands a significant proportion of young are working during their studies but without any direct connection between the two (see table 3.3).

Table 3.2
Status of young people at different ages, 1995 (%)

Age	Status	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
15	Educ+inactive	93.5	99.6	70.3	97.2	92.1	100	99.0	95.6	82.8	99.1	65.7	78.4	89.9	80.9	79.6	99.9
	Educ+active	2.9	0.3	28.6	2.8	0.3	.	0.6	1.9	1.2	0.9	29.3	17.6	0.5	17.8	.	.
	NoEduc+active	2.2	.	1.1	.	4.8	.	0.1	1.6	10.6	.	0.2	2.1	5.3	.	18.0	.
	NoEduc+Inactive	1.4	0.1	.	.	2.8	.	0.3	0.9	5.4	.	4.9	1.9	4.4	1.4	2.4	0.1
	Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	Educ+inactive	59.0	88.4	29.4	47.5	67.6	66.1	84.0	63.6	69.8	72.0	40.9	41.4	60.1	53.8	70.8	27.3
	Educ+active	17.1	2.2	60.2	38.5	2.8	6.1	6.8	7.5	2.1	5.8	41.6	28.8	5.0	28.7	0.3	29.4
	NoEduc+active	19.3	7.0	8.4	11.3	21.6	22.6	7.2	26.1	21.2	19.2	12.4	28.6	28.2	15.0	24.7	37.5
	NoEduc+Inactive	4.5	2.4	2.0	2.7	8.0	5.2	2.0	2.8	6.9	3.0	5.1	1.3	6.7	2.5	4.1	5.8
	Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
24	Educ+inactive	14.3	12.9	14.9	17.3	12.5	16.4	12.7	7.8	22.5	12.0	9.8	15.3	13.9	15.5	16.3	3.5
	Educ+active	8.8	4.3	25.2	9.8	1.8	9.5	7.7	4.4	3.5	3.4	21.4	8.9	9.6	18.5	4.5	9.9
	NoEduc+active	66.8	75.7	54.7	63.8	69.7	67.0	72.7	79.7	57.2	75.8	60.1	73.1	68.1	55.3	72.5	74.1
	NoEduc+Inactive	10.2	7.0	5.2	9.0	15.9	7.1	6.9	8.2	16.8	8.9	8.7	2.7	8.5	10.8	6.8	12.4
	Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 3.3
Type of training followed by young actives
aged 18 and receiving education or training, 1995 (%)

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Dual System or at the place of work	54.2	58.2	30.5	87.1	4.2	0.3	63.2	25.1	9.0	92.9	6.9	92.3	.	.	.	39.1
Other	45.8	41.8	69.5	12.9	95.8	99.7	36.8	74.9	91.0	7.1	93.1	7.7	100	100	100	60.9
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

3.3. Voluntary part-time work for education purposes

This type of part-time work is increasing in the European Union especially for the young, probably due to their hesitation of fully entering in the labour market but also due to the development of national programs aiming at fighting against unemployment of young people.

Table 3.4

Part-time jobs because of education and training
among people with part-time jobs (%)

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
15-29																
1987	23.2	5.6	71.5	14.6	.	8.2	.	24.6	6.4	49.4	35.3	.	13.5	.	.	33.8
1995	32.7	7.6	68.2	26.3	14.9	12.7	.	28.2	9.4	33.6	47.8	24.0	30.0	50.6	41.1	49.9
30-59																
1987	1.5	.	2.1	4.6	.	.	.	.	1.4	.	1.4	.	.	.	.	0.1
1995	1.8	.	1.8	4.1	.	0.7	.	.	1.4	.	0.5	1.1	.	3.6	1.5	0.9
15-59																
1987	7.8	2.6	29.6	6.2	.	3.8	.	10.5	3.2	21.2	14.3	.	4.7	.	.	9.0
1995	10.3	2.1	34.3	7.5	7.8	5.7	.	9.7	4.2	8.2	18.4	6.8	8.4	26.3	13.1	14.9

4. THE DIFFICULTY OF THE INTEGRATION INTO THE LABOUR MARKET

If delayed, integration into the labour market becomes more difficult.

4.1. Unemployment risks

Unemployment affects young people much more than other age groups.
In 1994, young people aged 15-24 amounted to approximately 46 million and accounted for 13.5 % of the whole Union population. The share of the young in the unemployed population was 27.6 %.
Germany is the only country where the unemployment rate remains the same for each age grouping.

Table 4.1

Unemployment rates by age groups, 1995 (%)

	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
15-29	17.3	15.4	9.5	8.1	20.9	36.3	20.1	15.8	25.0	4.9	9.9	5.3	12.8	29.9	13.6	13.1
30-59	8.4	7.3	5.9	8.3	5.6	16.9	9.3	10.6	6.6	2.2	6.0	4.0	5.6	13.5	6.4	6.9

In April 1996, the unemployment rates of people aged 15-24 was twice as much as the rate for the whole population (21.3 % versus 10.5 %).
When considering the young population aged 15-24, unemployed persons only represent 10 %. This figure show the importance of full-time students.

Among countries, the unemployment rates of young people aged 15-29 differs a lot from around 5 % in Luxembourg and Austria to 36.3 % in Spain.

It also can be noticed that in most countries, the female rates of unemployment are even higher.

4.2. Insecurity of employment (Fixed-Term Employment)

The first job seem increasingly to be a period of experimentation aimed at getting more steady employment.
More than two thirds of young employees have a fixed-term contract in Spain, versus a quarter for people aged 30-59. Temporary jobs represent around a quarter of young employment in Denmark, Germany, France, Portugal, Sweden and more than a third in Finland, where it never reaches 10 % for older employees.

Table 4.2
Employees with temporary job/work contract
by age groups, 1987-95 (%)

		EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
15-29																	
	1987	17.9	11.7	22.9	26.2	23.4	28.5	17.6	12.6	9.2	7.0	16.3	.	31.0	.	.	9.2
	1995	23.1	12.0	24.6	24.4	18.4	64.1	28.6	14.6	13.5	.	19.9	12.6	21.3	37.4	28.4	9.9
30-59																	
	1987	4.5	2.4	4.5	3.9	13.8	9.5	2.4	5.3	3.6	1.5	5.0	.	9.0	.	.	4.6
	1995	7.0	2.9	6.2	5.3	7.1	23.1	6.9	7.5	4.8	.	6.1	2.5	5.9	11.1	7.5	5.6
15-59																	
	1987	9.1	5.6	11.3	11.8	16.6	16.0	7.2	8.7	5.3	3.6	9.4	.	17.1	.	.	6.3
	1995	11.6	5.3	12.3	10.5	10.2	35.9	12.4	10.3	7.3	.	10.8	6.0	10.4	16.7	12.7	6.9

4.3. Involuntary part-time work

Young people are more likely to have part-time jobs because they could not find a full-time job.

Table 4.3
Employees with involuntary part-time job
among employees with part-time jobs by age groups, 1987-95 (%)

		EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
15-29																	
	1987	21.8	53.0	7.8	14.2	45.3	55.4	.	53.3	66.1	13.5	25.9	.	59.6	.	.	19.6
	1995	28.3	52.4	13.1	14.1	64.4	33.0	60.0	46.1	58.5	.	12.2	12.9	41.6	42.4	38.0	17.0
30-59																	
	1987	11.2	22.9	10.7	6.3	46.6	35.9	.	28.2	47.9	.	23.1	.	49.8	.	.	7.8
	1995	17.8	23.5	21.4	10.3	63.0	23.8	36.1	30.8	38.8	8.5	5.6	6.9	46.3	56.4	27.2	12.7
15-59																	
	1987	14.3	34.7	9.5	7.6	46.1	44.4	.	38.8	54.7	10.0	24.1	.	53.1	.	.	10.9
	1995	20.7	30.6	17.3	10.9	63.7	27.6	42.8	35.9	45.8	9.9	8.1	8.4	45.0	49.6	30.4	13.9

4.4. Sector of economy

The available data seems to indicate that substantial differences in industrial and occupational distribution exist between youth and the adult labour force.

Young people are largely concentrated in service industries (distribution, hotels, catering and repairs) and under-represented in most other divisions (agriculture, public administration) except for construction and manufacturing.

Table 4-4
The industrial distribution of employment by age groups, 1995 (%)

NACE	AGE	EU	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
No answer	15-29	0.4	.	.	.	.	.	.	.	.	.	4.1	.	.	.	.	0.8
	30-59	0.2	.	.	.	.	.	0.1	0.3	.	0.5	2.5	.	.	.	.	0.3
Agriculture	15-29	3.8	2.0	4.3	2.2	12.6	6.7	3.7	7.2	6.6	3.2	3.6	3.0	4.5	6.4	2.3	1.7
	30-59	4.9	2.6	3.9	3.1	17.8	8.7	4.8	11.5	6.9	3.8	3.3	8.0	9.2	6.4	2.9	1.9
Mining & quarrying	15-29	0.3	0.3	.	0.6	.	0.4	0.1	.	0.4	.	0.1	0.3	0.4	.	0.3	0.2
	30-59	0.5	0.4	.	0.8	0.5	0.6	0.3	0.5	0.4	.	0.2	0.3	0.3	0.2	0.2	0.5
Manufacturing	15-29	22.6	23.0	21.5	24.3	16.9	20.8	19.9	25.4	30.7	10.1	15.1	24.4	32.3	21.2	21.5	18.9
	30-59	20.8	19.5	19.8	25.4	15.7	19.6	18.8	16.5	21.0	15.4	16.5	21.4	21.0	20.7	18.6	19.1
Electricity, gas & water supply	15-29	0.6	0.7	.	0.9	0.9	0.4	0.5	.	0.7	.	0.3	0.5	0.7	.	0.5	0.7
	30-59	1.0	1.0	0.8	1.1	1.3	0.9	1.1	1.4	1.2	0.7	0.9	1.2	1.0	1.5	0.7	1.0
Construction	15-29	8.6	8.3	5.9	11.1	7.2	10.7	7.2	6.3	8.9	13.2	6.1	10.2	11.8	5.4	4.8	6.9
	30-59	7.6	6.5	6.4	8.8	6.9	9.3	6.9	8.5	7.5	9.9	5.8	8.2	7.5	5.8	6.2	7.2
Wholesale	15-29	18.6	17.8	22.3	16.6	22.3	19.7	17.2	17.6	18.2	18.2	22.9	19.1	16.3	16.2	17.3	20.6
	30-59	13.7	14.0	10.5	13.6	15.1	15.2	12.5	12.2	15.9	12.4	13.3	14.3	14.5	10.2	10.9	13.5
Hotels/Restaurant	15-29	5.6	4.7	4.8	3.9	8.0	8.3	5.1	8.1	5.5	7.0	5.9	6.4	5.5	4.6	6.0	6.5
	30-59	3.3	2.8	1.5	2.6	5.4	5.9	2.8	4.3	3.8	4.3	2.4	4.4	4.6	2.1	1.5	3.6
Transp., storage, communications	15-29	5.0	5.4	6.9	5.2	5.1	4.3	5.1	3.3	3.2	6.7	5.4	6.1	3.0	8.6	6.7	5.7
	30-59	6.5	8.3	7.5	6.0	7.4	6.7	6.8	5.3	6.1	6.9	6.2	6.9	5.1	7.2	6.8	6.7
Financial intermediation	15-29	3.7	3.0	2.5	4.3	2.6	2.0	2.6	4.3	3.2	10.8	3.0	3.8	2.4	1.2	1.8	5.8
	30-59	3.5	4.4	3.2	3.6	2.6	3.0	3.5	3.9	3.6	9.2	3.3	3.8	3.4	2.8	2.2	4.1
Real estate act	15-29	7.4	6.9	6.8	5.7	5.0	6.8	9.8	7.4	5.5	5.7	10.0	5.1	6.7	10.1	9.1	9.1
	30-59	6.7	5.5	7.3	6.3	3.8	4.9	7.9	5.9	4.5	5.1	9.5	5.5	3.9	7.6	8.9	9.3
Public adm.	15-29	5.6	7.4	3.9	7.6	5.2	4.2	6.4	3.3	4.6	8.8	5.3	5.1	3.8	4.2	2.5	5.1
	30-59	8.6	11.1	7.2	9.3	8.4	7.3	10.3	7.0	9.0	10.2	9.4	7.2	9.2	6.6	6.0	6.5
Other services	15-29	17.7	20.5	21.1	17.5	14.3	15.6	22.5	17.2	12.6	16.3	18.3	16.1	12.5	22.0	27.4	17.9
	30-59	22.5	24.0	31.9	19.6	15.2	17.9	24.2	22.8	20.3	21.7	26.7	18.7	20.2	28.7	35.0	26.2

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CROSS-NATIONAL RESEARCH ON SCHOOL TO WORK TRANSITIONS: AN ANALYTICAL FRAMEWORK

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Emer Smyth

Abstract

This paper develops an analytical framework for the comparative analysis of the transition from school to work, paying particular attention to country-level factors which influence the transition process. It starts by identifying four sets of dimensions which need to be included in a conceptual framework, namely the national context, the nature of education/training systems and their relation to the labour market, the way the transition process itself is structured, and the outcomes of transition. The paper then reviews cross-national studies in the field, focusing primarily on papers presented to previous meetings of the ESF Network on Transitions in Youth. It discusses methodological problems of cross-national research, including the limited availability of comparable data (which restricts both the countries and the variables that are included in cross-national analyses), problems in defining equivalence in respect of such comparable data as are available, and the limited degrees of freedom to support empirical analysis of system-level effects. The paper develops a typology of education/training systems, based on the dimensions of stratification and standardisation, and on the strength and nature of education/labour-market links. The relative impact of different policy interventions is predicted to vary across the categories of this typology.

Résumé

Comparaison internationale de l'insertion des jeunes : un cadre d'analyse

Cet article developpe un cadre théorique permettant une comparaison internationale des modes d'insertion professionnelle propres à chaque pays. Quatre facteurs principaux sont identifiés : le contexte national, la nature de chaque système éducatif et de formation, la relation entre celui-ci et le marché du travail, la façon dont est structuré le processus de transition école/travail et le résultat de cette transition. L'article se poursuit par une analyse des comparaisons internationales, et plus spécialement celles réalisées précédemment par le réseau européen sur l'insertion sociale et professionnelle des jeunes. Différents problèmes méthodologiques propres à cette recherche sont ensuite évoqués, notamment la pénurie de données internationales réellement comparables (ce qui réduit à la fois le nombre de pays et le nombre de variables que l'on peut prendre en compte, les problèmes liés à la définition des équivalences ainsi que le nombre limité de degrés de liberté permettant l'analyse empirique des effets systémiques. L'article propose enfin une typologie des systèmes éducatifs qui prend en compte les dimensions de la stratification sociale, la nature et l'intensité des liens entre système éducatif et marché du travail et une estimation de l'impact relatif des différentes mesures de politique publique prévisible compte tenu de cette typologie.

1. INTRODUCTION

In this paper, we review the main comparative research papers on school to work transition processes by European researchers in recent years. Transition processes are viewed in a broad sense, covering those leaving second-level schools and third-level institutions, though we focus mainly on the former. The primary focus of the paper is on those papers presented at the workshops run by the European Science Foundation's Network "Transitions in Youth", which took place in 1993, 1994 and 1995. However, our account also draws on other published sources, both European and international, in this area.

The objectives of this paper are as follows:

- To identify the important dimensions of variation among education/training (ET) systems and their national contexts, which may be hypothesised to influence the success of transitions.
- To develop a conceptual framework which adequately represents inter-country variations in the nature of the school to work transition process.
- To analyse the approaches to the conceptualisation and measurement of "success" in transitions taken in cross-national studies.
- To summarise the main conclusions on factors affecting "success" in school to work transitions, with particular reference to variation according to the education/ training system and its national context.
- To derive working hypotheses about the likely commonalities or differences in the transition process and in the factors influencing success or failure in such transitions.
- To identify the main conceptual, methodological and data issues raised by the cross-national studies.

The remainder of this paper is divided into four sections. Section two outlines the central elements of a conceptual framework for analysing cross-national variation in school to work transitions. Section three outlines the approaches taken by cross-national studies of transitions, focusing on the conceptualisation and measurement of "success" used in these studies. Section four incorporates the findings of transitions research into the conceptual framework developed in section two in order to suggest a typology of ET systems and their linkages with the labour market. This typology is used to derive the working hypotheses outlined in section five.

2. ELEMENTS OF A CONCEPTUAL FRAMEWORK

The conceptual framework outlined below is derived from a number of sources. Firstly, our review of cross-national research on school to work transitions clearly indicates a number of important dimensions. Secondly, the groundwork for our perspective was laid by research from a "societal" perspective (see Maurice et *alii*, 1986; Wilkinson, 1983; Rubery, 1994). Thirdly, the framework builds upon earlier (1995) work by the authors and others undertaken as part of a proposal to the Targeted Socio-Economic Research Programme (TSER) of DGXII (see also Raffe, 1993).

There are four general dimensions of a conceptual framework for school to work transitions that need to be taken into account in cross-national studies: the national context; the nature of the education/training system in each country and its interconnection with the labour market, as well as state policies influencing these processes; the structure of the school to work transition process itself; and the outcomes of the transition process - "success" and "failure" in transitions, and variations among groups of young people in the outcomes achieved.

2.1. Context

Countries vary significantly from each other in their economic, socio-demographic and institutional characteristics. Since institutional arrangements for education and training are firmly embedded in particular national contexts, one of the most difficult tasks in comparative research is to separate out the impact of particular ET policies and systems on youth transitions from the influence of (changes in) other contextual factors. The main dimensions of national context that need to be considered are:

2.1.1. Demographic factors

Countries differ in the age structure of their populations and the relative size of the youth cohort. These factors are likely to influence the ease of entry into the labour market and further / higher education. In addition, the nature and resources of the family system may affect the ability of parents to support young people through more prolonged transition periods. The influence of demographic factors is partly contingent on the extent and nature of structural shifts in the economy. In countries such as Ireland, a very late "demographic transition", coinciding with a rapid decline in traditional industries and the growth of new sectors, resulted in substantial changes in the distribution of employment and unemployment.

2.1.2. The production system

Countries vary in the structure and organisation of their production systems. Soskice (1993a, 1993b) argues that in liberal-market economies, such as the US, the UK and parts of southern Europe, the institutional arrangements do not support the long-term relationships necessary for company-based initial vocational training. Such arrangements are present in industry co-ordinated economies such as Germany and much of northern Europe. They are also present in group co-ordinated economies such as Japan, although in this case the skills generated are not transferable across enterprises. The implication of this analysis is that the effect of company-based transition measures, such as work experience or training schemes, will vary according to the type of economy. All aspects of a country's production, consumption and social reproduction systems are interrelated (Rubery, 1994), which limits the extent to which "successful solutions" in one system can be transferred to another system. In addition, the nature of the production system varies over time. It is particularly important, for instance, to take account of a country's stage of economic development and the timing of its integration into a changing world economy. "Peripheral" countries, with late and dependent industrialisation, will differ significantly from "core", mature industrialised countries in the nature of the economy and its linkages with other institutions.

2.1.3. Labour market structures

Countries differ from each other in the segmentation of the labour market, in particular, the extent to which there is a separate youth labour market, and the relative importance of occupational and internal labour markets. Occupational labour markets (OLMs) refer to labour market sectors where jobs are clearly defined in terms of content and have high levels of consistency across firms and/or industries. Workers in OLMs have educational qualifications or skills that are transferable from one employer to another (see Edwards, 1979). In contrast, in internal labour markets (ILMs) only lower grade jobs are filled from outside the firm with mobility into most higher grade positions taking place after a period of training. Higher grade workers are thus largely protected from external competition. Training tends to be firm-specific, taking place on-the-job, and consequently skills are generally not transferable to other firms (see Doeringer and Piore, 1971). Occupational and internal labour markets may co-exist within the same national system but the relative balance between the two forms varies between countries. Other influences on labour market structuration include: the importance of the family economy, the relative size of public sector employment and the significance of local as opposed to national, or international, labour markets.

2.1.4. Wage-setting mechanisms

Countries vary in the mechanisms for dealing with pay determination and other industrial relations issues. In some countries, wages are negotiated at a national level involving corporate interests, trade unions and government, while in other cases, pay is negotiated at the level of industrial sectors or individual firms. The form of these mechanisms is shaped by the nature of labour market structuration and by the national political framework. Countries also differ in the relativities between the wages of young people and those of adults.

2.1.5. The economic cycle

Youth and adult unemployment rates change over the economic cycle. However, the nature of production systems and labour market structures are also responsive to secular changes.

2.1.6. Policy-making framework

A number of aspects of the policy-making process vary widely between countries: whether the State is unitary or federal; the role of employers and trade unions in national policy-making; the degree of autonomy and the relative power of the State in intervening in education, training and labour market institutions. Thus, the nature, extent and effectiveness of State policy interventions in ET systems and in the transition process are cross-nationally variable.

2.2. Education/Training Systems and Policies, and their relationship to labour markets

A good deal of research has been carried out on differences in national education/ training systems, though no comprehensive conceptualisation of these systemic differences appears to exist. This section outlines the main dimensions to be considered in analysing cross-national differences. A later section will attempt to develop a typology of systems on the basis of these dimensions. Education/training systems differ along the following dimensions:

- The extent and nature of national *standardisation* of curricula, assessment and certification within the educational system.

- The degree of *differentiation, and associated stratification*, between academic and vocational "tracks", courses or routes (see Allmendinger, 1989) and the relationship between track differentiation and student characteristics. Differentiated systems may vary from each other in relation to: the timing of selection into different school types or curricular tracks; the rigidity, or degree, of movement between tracks; the extent of institutional support for different routes or tracks; and status differences between the curricular tracks.

- The degree of *flexibility* in the educational/training system: the ease of mobility between different tracks; the possibility of "second-chance" education/training; the extent to which the system is "one-way", with young people moving through different stages at clearly defined points in time, as opposed to allowing for flexible choices.

- The extent to which the delivery of education/training is *school- or work-based*; the extent and nature of co-operative relationships between educational institutions and employers in ET provision (through apprenticeships, alternance arrangements, etc.).

- The nature of *governance* of the ET system: the degree of autonomy of the school system in the management and delivery of courses; the relative importance of private and public provision; institutional arrangements for co-ordination and co-operation among different levels of the ET system; the extent to which policy-making on education/training and employment is formally integrated (e.g. through ministries or state agencies that combine education and employment functions).

- *Curriculum design and content*: the extent to which the system emphasises general education rather than academic specialisation or training in specific skills; the role of different institutional actors (such as government, school management, teachers, employers) in curricular design; the effectiveness of procedures for curriculum review in the light of changing technologies and student and employer needs.

- *Curriculum delivery*: the extent of institutional differentiation in curricular delivery; the pedagogical approaches adopted in different sectors/levels of the system; the extent of age grading in instructional arrangements; the degree of subject/area choice, and the age at which such choices are made; the relative priority given to full-time and part-time study; the extent of modularisation and use of credits; the provision of "distance learning" and other innovative approaches.

- The nature of *training "schemes"* established by the state: the level of provision of training/employment schemes; the integration of these schemes into the core education/training system; the balance between the provision of training and employment experience; the target groups for such provision.

- The nature and structure of ET *qualifications and certification*: their role in access to further/higher education; their currency with employers; the extent to which qualifications provide for clearly defined routes through the ET system; the extent to which qualifications from particular ET institutions are recognised by other ET institutions.

- *Educational "output"*: what employers are "buying" from the educational system, e.g. the relative importance of certification, course content, and social and work skills (such as punctuality, the ability to concentrate, to work with others etc.); the relative significance of "screening" or "queuing" of job applicants in different economies and in different segments of the labour market.

It should be noted that different elements of the education/training system within the same country may vary along these dimensions. For example, primary education in a particular country may be relatively unstandardised and undifferentiated while second-level education may be highly standardised and differentiated. On the other hand, while the second-level system may be relatively comprehensive but unstandardised, the third-level system may be highly differentiated and standardised.

Education/training systems change over time in relation to the different dimensions outlined above. These changes may result from the (intended or unintended) consequences of education/training policies or from other changes in the national context (e.g. the economic cycle, demographic shifts). Thus, many dimensions of the ET system are open to manipulation in policy terms, although the results of such interventions will differ according to the national systems concerned.

In developing a typology of education/training systems in Section 3, we will focus on two main aspects: the degree of standardisation, and the degree of differentiation/ stratification. Other dimensions of ET systems (such as certification, governance and so on) will be linked with these aspects in our discussion.

2.3. The Transition Process

The transition process itself differs along a number of dimensions:

- The extent and nature of *regulation* of the school to work transition process: rules governing compulsory attendance; institutional "overlap" between education and work statuses; the role of compulsory military service in the transition from school to work.

- The *structuring* of the transition process: the length of transition; the number and type of stages involved; the range and nature of options available on leaving school; the extent to which the education/training system facilitates flexibility in movement between statuses; the degree of demarcation between different statuses.

- The extent to which pathways are *individualised or highly structured*; the role of institutional arrangements in facilitating individualisation.

- The relationship of school to work transitions to *other transitions*, such as leaving the parental home, new household formation, marriage, parenthood, and migration; the relationship to social-psychological changes, such as the development of identity and independence.

2.4. "Outcomes" of the Transition Process

The outcomes of school to work transitions can be examined in both macro and micro terms. At the macro level, the concern has been with the relationship between educational "outputs" and aggregate economic performance, in particular with the role of education/training systems in promoting economic growth, improving income levels, and meeting skill needs.

At the micro level, outcomes of the transition process have been viewed mainly in economic terms, including:
- labour force participation,
- employment versus unemployment,
- occupational status,
- matching between ET characteristics and occupational status,
- wages and wage growth,
- security of employment,
- access to on-the-job or employer-sponsored training,
- job and career mobility,
- job satisfaction.

Other transition outcomes include establishing an independent household, family formation and migration.

The achievement of these outcomes, and the way in which different outcomes relate to each other, varies across countries. In addition, there is variation within countries, for example, by gender, social class background, ethnicity and region. These inequalities can vary significantly in their extent and nature across countries, partly as a consequence of the structuring of education/training and labour market systems, but also as a result of state policies which may be specifically designed to reduce such inequalities.

Conceptualising the "outcomes" of the transition process is not unproblematic, however. Countries vary in the structure and pace of the transition process. Consequently, transition outcomes may appear quite different when young people from different countries are compared one year after leaving school, but may become quite similar five years after leaving school. This highlights the necessity of adopting a more dynamic view of transition trajectories over time.

3. CROSS-NATIONAL STUDIES ON SCHOOL TO WORK TRANSITIONS

3.1. Context

The review of studies in this paper focuses on papers prepared for the ESF-funded Network on Transitions in Youth workshops over the period 1993 to 1995. These papers provide a useful starting-point for the discussion of issues in transitions research for a number of reasons. In particular, the Network aims to "advance the theoretical understanding of transitions in youth ... through the comparative analysis of regular and longitudinal surveys of transitions". The emphasis is on the promotion of comparative rather than collaborative studies and, to this end, the Network has drawn together researchers from a range of disciplines and countries with varying ET and labour market systems. The explicit concern of these papers with the conceptual and methodological issues involved in cross-national research provides a basis for examining the direction of comparative studies. The Network is primarily composed of researchers working on regular and longitudinal transition surveys so our review is biased towards quantitative and survey-based research. However, apart from descriptive accounts of systems, we are aware of little rigorous comparative research that is based on primary qualitative data (an important but rare exception is Evans and Heinz, 1994). Discussion of the Network papers is supplemented by a selective consideration of significant comparative studies from other sources. This overview is not all inclusive but is intended to highlight commonalities in approaches to cross-national research on youth transitions. For the purposes of this paper, it is not intended to draw substantially on the more extensive array of studies of education/training and labour market systems within individual countries.

3.2. Choice of comparisons

In general, there has been a tendency for cross-national studies to focus on a small number of "core" European countries, that is, countries which are large, located near to the economic "heart-land" of Europe and at a similar advanced stage of economic development and integration into the world economy. Thus, researchers have compared France and Germany (Maurice et *alii*, 1986; Brauns et *al.*, 1995), Germany and Britain (Marsden and Ryan, 1995; Evans and Heinz, 1994), and Britain and France (Marsden and Germe, 1991). Other studies have considered the non-European industrial powers, making comparisons between the United States and Japan (Rosenbaum and Kariya, 1991), for instance, or comparing them to the European "core" countries (see Schupp et *al.*, 1994, on the US and Germany; Nakajima, 1990 on Japan, the US and Britain). While such studies yield very important insights into the nature of school to work transitions, focusing on a relatively narrow range of countries runs the risk of generalising to other, very different, national contexts, including countries who have experienced dependent industrialisation, geographically "peripheral" nations, and those with (formerly) different political economie systems (such as in Eastern Europe). To date, there has been no attempt at systematic comparisons between "core" and "peripheral" countries in their education/training systems and linkages with the labour market. Perhaps more remarkable, in view of the enormous interest in the German dual system, is the almost total neglect of the dual systems of Austria, Switzerland and Denmark. Despite the willingness of many

researchers to advocate the introduction of the dual system to other countries, this opportunity to study its operation in different national contexts has been missed.

Furthermore, few comparative studies address the issues of internal heterogeneity within States. In many cases, States do not have uniform education, and training systems and labour market conditions may be strongly differentiated by region. For example, many studies have compared school to work transitions in "the United Kingdom" (or "Britain") to those in other European countries, despite the fact that Scotland and Northern Ireland have very different ET systems to that in England. A greater awareness of the diversity of national contexts, and their potential implications for youth transitions, would help to provide a more adequate framework for analysis.

Most cross-national studies compare two, or at most three, countries. A smaller number of studies use official statistics to examine EU-wide differences (e.g. Bouder et *alii*, 1995). The rationale for comparing particular countries is not always explicit in reported research, but can be loosely grouped into the following categories:

1. Countries are selected on the basis of marked contrasts in their education/training systems. Most of the studies which compare the "dual system" in Germany with other systems fall into this category (e.g. Schupp et *al.*, 1994).

2. Countries are selected on the basis of marked contrasts in some aspect(s) of their contexts: for example, Eastern and Western European comparisons emphasise differences in state regulation of the economy (e.g. Koklyagina, 1995).

3. Countries are selected on the basis of some similarities in their education/training systems in order to investigate whether institutional differences have an impact on transition outcomes. For example, Rosenbaum and Kariya (1991) select the United States and Japan as examples of comprehensive educational systems and then investigate whether differences in linkages between the ET system and the labour market are apparent. The Smyth and Surridge (1995) paper stresses similarities in the Irish and Scottish education systems (an emphasis on general education with differentiation by exam performance) and examines differences in post-school destination; this paper also discusses similarities in the national context (peripherality and the decline of youth employment) between the two countries.

4. Countries are selected on the basis of some similarities in their context: for example, Konietzka and Solga (1995) discuss the similarities between East and West Germany in socio-cultural and institutional terms, and then analyse the impact of differing forms of labour market regulation on employment outcomes.

However, in practice, data availability and comparability are major factors in the choice of comparison. For instance, the relative dearth of studies on Northern/Southern European comparisons, or on South East Asian countries, may reflect the lack of comparable school leavers' surveys. In general, data availability (and the availability of researchers knowledgeable about the systems) has often been more influential than theoretical or policy considerations in selecting countries for comparison.

3.3. Conceptualisation and measurement of "success" in transitions

The concept of "success" or "failure" in transitions is rarely explicitly elaborated in cross-national studies. There is a general tendency to focus on employment-related outcomes:
- In particular, studies contrast *access to employment* and *chances of unemployment* (e.g. Béduwé et *alii*, 1995; Hannan et *al.*, 1994; Schober-Brinkmann and Wadensjö, 1991; Smyth and Surridge, 1995). In some instances, all of the non-employed are grouped together which may obscure gender-specific differences in labour force participation (for an exception to this, see Brauns et *al.*, 1995).

- Many studies consider *occupational attainment*; in general, there is a tendency to focus on the social class of the job rather than the type of job per se (e.g. Brauns et *al.*, 1995; Konietzka and Solga, 1995; Shavit et *al.*, 1994).

Other aspects of employment are sometimes considered, including:
- *Skills matching*, i.e., whether the content of education/training matches the skills required on the job (e.g. Konietzka and Solga, 1995; Schupp et *al.*, 1994).

- *Wages / wage growth* (e.g. Marsden and Ryan, 1991; Schober-Brinkmann and Wadensjö, 1991; Schupp et *al.*, 1994).

However, the more subjective aspects of employment experience, such as job satisfaction, are rarely considered (for an exception, see Nakajima, 1990). Consequently, "success" tends to be seen in terms of getting a job, getting a "good" job (though what this amounts to is rarely specified) or getting a job appropriate to one's education/skills.

In contrast to the emphasis on employment-related outcomes in transitions, there has been a relative neglect of other outcomes of the transition process, such as *leaving the parental home, parenthood* (for an exception, see Evans and Heinz, 1994) and *migration*. This neglect partly reflects the lack of available data. The neglect of migration trends in youth transitions may also reflect the tendency to study "core" countries, where out-migration levels are lower. The extent to which young people enter local, national or international labour markets will vary across countries with a consequent impact on the currency of educational/training qualifications. One study of Irish emigrants, for example, indicated the significance of portable educational qualifications for successful integration into the British labour market (Sexton et *al.*, 1991).

Attention to variation in "success" of outcomes has tended to focus on the relationship between educational failure (however conceptualised) and subsequent unemployment or exclusion from the labour market. Many studies examine differences in outcomes by gender, although social class background receives less attention in general (for an exception, see Furlong and Hammer, 1995). However, there has been little discussion of what would constitute "optimal" outcomes across sub-groups of young people; presumably, there will necessarily be jobs in the labour market which are not as "good" as others.

3.4. Factors influencing "success" in transitions

3.4.1. National Contexts

Studies have varied in the degree to which they take account of the impact of national contexts (the production system, labour market structures, economic cycle, and socio-demographic characteristics) on transition outcomes, and "success" in such transitions. In some studies, differences in the national context are effectively "bracketed off" in assessing youth transition outcomes. Schupp et al. (1994), for instance, attribute differences in employment rates and third-level participation between Germany and the United States to differences in the education/training system. However, these differences are also likely to result from differences in the production systems and labour market structures of the two systems. Other studies have explicitly taken account of such differences, most notably in comparisons of the former "command economies" of Eastern Europe with western capitalist economies (see, for example, Koklyagina, 1995; Roberts and Tan Ying, 1994). Considering such differences allows researchers to explicitly test the impact of varying contexts on transition outcomes. In the case of East and West Germany, for example, Konietzka and Solga (1995) found very few differences in the relationship between education/training and labour market outcomes, in spite of striking differences in preceding State regulation of the economy.

Researchers have tended to focus on two aspects of contextual variation in their discussions of youth transitions: labour market structures, and the economic cycle. Perhaps due to the pioneering work of Maurice et alii (1986) on the links between education and labour market outcomes, labour market structuration (and, to a lesser extent, wage-setting mechanisms) has received considerable attention in studies of school to work transitions (e.g. Ashton et al., 1993; Marsden and Ryan, 1991). Researchers have also focused on cross-national differences in the level of youth unemployment over the economic cycle, as well as on the differences between countries in the timing of economic recession (e.g. Ashton et al., 1990; Smyth and Surridge, 1995).

In comparison, researchers have paid less attention to cross-national variations in production systems and socio-demographic factors. To date, no systematic research has been carried out on differences between more and less industrialised countries in the "success" of transition outcomes. However, it appears self-evident that young people are more likely to achieve successful outcomes (such as obtaining employment) in more developed systems with lower overall levels of unemployment, and that national differences in unemployment rates are likely to affect the saliency of ET qualifications for occupational entry. Similarly, socio-demographic factors may facilitate or constrain the successful transition between school and employment.

3.4.2. Education/training systems and policies

The main focus of transitions research has been on institutional differences in education/training systems between countries. In this respect, studies have tended to focus on the dimensions of differentiation and, to a lesser extent, standardisation (see Allmendinger, 1989). These studies have generally posited Germany as an example of

a highly differentiated system against less differentiated systems such as France and the United States (e.g. Schupp et al., 1994). Discussions have often veered close to a "one best way" approach (Smith and Meiksins, 1995) in stressing the positive impact of the dual system on "success" in transitions:
- a much higher level of "intermediate skill level" provision in the dual system - though presumably this is also the case in other countries with highly developed OLMs, such as the Netherlands (see Schupp et al., 1994);
- a slower "pacing" and longer period of transition from school to work in the dual system (Roberts et al., 1994);
- a clearer "bottom floor" qualification to occupational entry, and less competition from the more highly qualified for semi-skilled and unskilled manual and service jobs in the "dual system" - with a higher degree of "reservation" of such jobs for the most poorly qualified; and, as a consequence, a lesser degree of exclusion of the latter in the dual system (Roberts et al., 1994; Heinz, 1993).

We have commented on the neglect of non-German dual systems such as those of Austria, Switzerland and Denmark. The Netherlands provides a fascinating opportunity to contrast "dual" and "school-based" systems within a country (Van der Velden and Lodder, 1994). Such comparisons suggest that, while the dual system leads to easier transitions in the short-term, school-based training may prepare people better for occupational or career change. Some of the research on Germany tends to focus on "positive" outcomes and to attribute these to the dual system rather than features of its context. However, some studies have also drawn attention to more negative outcomes:
- the higher level of occupational and career rigidity in the dual system (Schupp et al., 1994; Heinz, 1993; Roberts et al., 1994);
- an apparent lower level of job satisfaction, and more rigid individual matching of aspirations to opportunities - or restriction of choice - in the dual system (Heinz, 1994; Roberts et al., 1994);
- and finally the growing preference of many parents and pupils for study leading to the Abitur, instead of, or in addition to, the dual system.
Thus, it is necessary to consider the balance between different outcomes of the transition process. For example, some education/training systems, such as the dual system, may promote successful transitions to employment but may have associated implications for subsequent career mobility and household / family formation transitions.

In contrast, there has been much less focus on the dynamics of policy development in relation to education/training. An analysis of the changing structure of pathways remains at the level of hypothesis (Raffe, 1994) but an empirical ten-country study based on the same conceptual framework is shortly to be published by the OECD (Pair, forthcoming). There has been a relative absence of comparative analyses of government interventions in relation to educational failure, with the exception of Lange (1995) and some descriptive studies of measures for early leavers. Research on Britain, Ireland and the Netherlands indicates that, while the rate of school drop-out/failure is quite similar in the three countries, the most effective interventions are likely to differ significantly. In the Dutch case, the nature of the ET and employment systems along with lower unemployment rates allow for effective labour market

integration through access to vocational training, options which would not be appropriate in the Irish context (see Hannan et al., 1994).

Comparisons of education/training systems often appear quite static, positing the "German system" against the "British system" without taking account of policy changes within both systems. There have been substantial differences between countries in the strategic approach to policy development, even among those with relatively similar education/training systems. For example in the early 1980s, the UK pursued post-school vocational training as its main strategy for dealing with youth unemployment while Ireland and France emphasised the expansion of both upper second-level education and "within school" vocational courses (see Smyth and Surridge, 1995) and Canada prioritised participation in general education (Ashton et al., 1993). But British policy has changed several times since 1981, and now gives higher priority to full-time education, but with significant divergence between a multi-track approach in England and a unified system in Scotland (Raffe et al., 1996). The likely effectiveness of these differences in national policy can only be evaluated over a longer time frame, and need to be analysed at both a micro and macro level: in terms of the delivery of "middle level" skills, access to life-long retraining, labour productivity growth, etc. Policy interventions can occur within the existing education/training system or, in the longer term, can change the nature of the system itself. The dynamics of policy development should be given much more attention in studies of youth transitions.

3.4.3. Variation in outcomes

The relationship between aspects of the education/training system and "successful" transitions may vary across different groups of the youth population. Among recent cohorts, gender differences in post-compulsory educational participation have almost disappeared in many European countries and, in some instances, participation levels are higher among young women than among young men (Shavit and Blossfeld, 1996; OECD, 1995). However, gender differences persist when type of education/training is considered, with females more likely to enter "general" rather than "vocational" tracks and to take gender-typed vocational courses. Gender differences in patterns of educational participation are associated with differences in transition outcomes. Many studies report lower unemployment rates among females than males, a pattern which is partly attributable to educational differences (see Smyth and Surridge, 1995). However, the minority of young women who do not succeed in mainstream education may lose out disproportionately because they lack the qualifications for employment access and vocational training provision tends to be disproportionately targeted on traditionally male areas of work (see Hannan and Riain, 1993).

Research has indicated remarkable commonalities across countries in the relationship between social class background and educational attainment (see, for example, Müller, 1996), and in the way in which education mediates the association between class origin and destination (Ishida et al., 1995). Studies have also indicated that social class has a direct impact on chances of (un)employment on leaving school (Breen, 1995; Smyth and Surridge, in this document). "Success" in transitions - in terms of employment and occupational status - therefore varies significantly by social class background, over and above the effect of educational level.

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In contrast, there has been little concern with differentiation by ethnicity or nationality in transition outcomes across countries in recent research, although within-country studies highlight the significance of ethnicity for such outcomes (e.g. Shavit, 1990). This partly reflects data limitations, particularly in countries where there is a reluctance to collect data on ethnicity (e.g. France) or where surveys typically only cover nationals of the country concerned (e.g. Germany). Further research is needed on the way in which characteristics, such as gender, class and ethnicity, interact with educational attainment to shape the nature of the transition process.

3.5. Methodological issues in cross-national research on youth transitions

The analysis of cross-national differences in youth transitions raises a number of methodological issues. This section is designed to provide a brief overview of the most salient issues to emerge from our review of the research.

3.5.1. Data availability

Studies of school to work transitions tend to rely disproportionately on secondary data sources (for exceptions, see the Anglo-German study reported in Evans and Heinz, 1994; and also Nakajima, 1990). Existing national data sources fall into two categories:
1) general household surveys, including labour force surveys,
2) surveys of school leavers.
Most of the conventional labour force (or other household) surveys have only limited information on education and training characteristics as well as on family background. This limits their usefulness as a data source for analysing transition behaviour. In addition, many such surveys have little or no information on first job or detailed work history. Surveys of school (or third-level) leavers and youth cohort surveys have much more potential for such analysis. However, there are some limitations: such surveys are only carried out in a limited number of countries; the coverage of different education/training leavers varies across countries; and there are significant differences in the type of information collected. Variables representing "policy" interventions are particularly likely to be absent from, or poorly measured in, the available data sets. For example, few data sets provide even basic curriculum information, let alone record curricula which have been enhanced by transition policies. Participation on youth training schemes is often hard to measure when these are integrated with "ordinary" jobs. In addition, employment and training subsidies are rarely recorded; and the provision and effectiveness of guidance is notoriously difficult to measure.

3.5.2. Cross-sectional v. longitudinal

Existing data sources tend to be cross-sectional, in many cases covering only very recent labour market entrants. For example, the regular school leavers' surveys tend to focus on those who have left full-time education within the previous year. Estimates of "over-qualification", level and "content congruence" may be biased by focusing on such a short time period in the labour market. In contrast, longitudinal information is available from a number of youth cohort or follow-up surveys (e.g. in Scotland, England and Wales, Norway and Ireland). Household panel surveys may also provide data on educational achievement and employment history. Since countries vary

significantly in the pace, timing and pattern of the transition process, it is important to use longitudinal data to analyse the complexity of life histories among young people.

3.5.3. Cross-sectional v. time-series

The nature of employment and other outcomes will vary across the life course of young people. In addition, changes in education/training policy and secular shifts in the economy will result in differences between cohorts of young people in their employment chances, access to further education and so on. For this reason, it is necessary to incorporate a time dimension into the analysis of transition outcomes.

3.5.4. Micro and macro levels

Much of the information on youth transitions has been collected at the individual or household level. However, it is often difficult to link information on personal experiences to institutional factors and differences in institutional arrangements. This problem could be counteracted by triangulating information from a number of different sources, including surveys on employers' recruitment practices, case-studies of firms, case-studies of policy development on education/training and so on. In addition, some important institutional variables can only be measured at the societal level, thus causing a serious "degrees of freedom" problem in cross-national research.

3.5.5. Equivalence

Perhaps the most difficult task in conducting comparative research is establishing "equivalence" between variables across different countries (see Bynner and Chisholm, 1995; Hannan et al., 1994). This task is particularly problematic when comparing level and type of education/training. The current official (Eurostat and OECD) concepts and measures of educational and training qualifications of labour market entrants are, to a large extent, based on pre-existing statistical measures and on what appear to be common-sense judgements about the comparability of national qualifications. Consequently, they tend to ignore significant inter-country differences in relation to the kind of education/training provided by ET institutions and its linkage to labour market outcomes. In contrast, studies such as the CASMIN project (see Müller et al., 1990; Müller and Karle, 1993; Ishida et al., 1995) have developed a unified classification schema for education/training in nine countries by first carefully delineating the nature of ET provision and institutional arrangements within each country. The problem of equivalence aggravates the difficulty of comparing policy interventions in different national contexts. Even "comparable" measures - for example the provision of youth traineeships - may assume a very different character according to the system in which they are introduced. Comparing labour market statuses may also be problematic. The boundaries between labour market statuses (such as "employed", "unemployed" and "scheme trainee") are often far from clear-cut and are highly contingent on the national context (see Smyth and Surridge, 1995). Using "principal economic status" measures may be problematic in countries where "full-time" students are also employed for a relatively high number of hours. In addition, the boundaries between occupations, their status, pay and conditions may differ significantly between systems, rendering comparisons problematic.

In summary, the combination of problems at the level of data availability, research design and equivalence seriously restrict the ability of researchers to conduct rigorous comparative research. These problems are compounded by the lack of resources necessary to enable teams of researchers to carry out systematic research across a number of countries.

4. TOWARD A TYPOLOGY OF CROSS-NATIONAL DIFFERENCES IN SCHOOL-TO-WORK TRANSITION PROCESSES

We can best illustrate the utility of the conceptual framework by systematically combining a number of these dimensions to create a typology of education/training (ET) and labour market (LM) systems. Initially we take two main characteristics of ET systems - their degree of differentiation and associated stratification, and their degree of standardisation - and see how they are empirically related to each other and to LM outcomes and levels of "success". The work by Allmendinger (1989), and earlier work by Maurice et *alii*, (1986), is used as a basis for these classifications: illustrating differences in "national logics". The categorisation, which applies to second-level systems, is suggested tentatively and hypothetically for illustrative and initial hypothesis generation purposes.

Figure 1
A typology of Education/Training systems

		Degree of Differentiation of ET System		
Degree of national standardisation of ET system		High	Medium	Low
	High	Germany Netherlands	England France Italy	Japan Ireland Scotland
	Medium		Spain	
	Low			USA Canada

Germany and the Netherlands, for instance, have highly standardised second level systems in terms of their curricula, funding, teacher training/certification, and national certification systems. Both countries have highly differentiated school systems with different curricula/examinations, and selection procedures occurring at relatively young ages; selection into particular school types is subsequently difficult to reverse (see Allmendinger, 1989; Schupp et *al.*, 1994). These types of school system make sense only in the context of labour market systems which are highly "occupationalised" and segmented: with ET designed for specific occupational niches. This "content matching/congruence" of ET and LM may be achieved by direct inter-linkage, through joint responsibility for vocational education and training between ET

providers and employers, as in the German "dual system", or by setting both "level" and "content/type" education/training pre-requisites for specified occupational entry. The latter approach is used in the Netherlands where there is a very extensive range (c.200) of occupational niches with specific ET requirements; and also applies to the limited range of professional/technical occupations in English-speaking countries.

At the polar extreme to the standardised "dual system" is that of the American high school system: offering a comprehensive, general education up to age 18 for around 90 percent of the age cohort, with wide regional and local variation in the curriculum, teacher qualifications and instructional effectiveness, and school resource levels. The system is unstandardised not only in terms of the curriculum and pedagogy adopted, but also in the examination/certification system used. As a result of this lack of reliability and generalisability of the examination results from high schools, employment decisions are not, indeed cannot be, based on performance/achievement levels in high schools, other than completion/non-completion of the high school diploma (see Rosenbaum and Kariya, 1991). Viewed in either conventional ("content") human capital theory terms, or in terms of merely signalling underlying abilities/aptitudes, the American high school system does not provide employers with reliable information on which to base employment decisions. In either "content congruence" or "level congruence" terms, the matching of high school leavers to jobs/occupations is much less prevalent in the United States than in Germany or Japan; or indeed one suspects most other OECD countries with standardised second-level systems (Rosenbaum and Kariya, 1991; Schupp et al., 1994).

In many respects, the Canadian case seems much closer to that of the US than others: with an undifferentiated high school system, though somewhat more standardised, but with no nationally standardised examination system at completion of second level. In both the United States and Canada, however, there is almost universal completion of upper second level education and much higher rates of third level participation; however, the third level system appears to be more differentiated and stratified than in many European countries (Ashton et al., 1993).

In more standardised second level systems - such as the English or Irish systems - "level congruence" appears to be much more pronounced; with some "matching" between vocational/technical subjects and access to skilled manual occupations (Hannan et al., 1991 and 1993). In more segmented and stratified cases - such as those of Israel and Italy - the "match" between taking the vocational/technical tracks at school and entry to skilled manual occupations appears to be even clearer, even in the absence of the "dual system" (Shavit et al., 1994).

The "low differentiation" and "high standardisation" category is an equally interesting variant to that of the American/Canadian system: one with a high degree of comprehensivisation of the second level system, a high degree of national standardisation of the examination system, and an equally high completion rate of upper second level education. Japan is a typical example, though the Scandinavian countries and Ireland would also be examples here. In these countries, there is a high degree of reliable "signalling" to employers of second-level leavers' educational achievements and characteristics; this results in a much higher degree of congruence between level of education and performance in examinations and decisions relating to

employment and occupational allocation (Rosenbaum and Kariya, 1991; Breen et *al.*, 1995). There appears, in other words, to be a higher level of "level" and "performance" congruence in such systems than in unstandardised ET systems. Equally third level entry, particularly where there is a "numerus clausus", is highly determined by performance in the final second level examination.

The relative lack of congruence between educational performance levels at second level and employment decisions in the United States, for those not going on to third level, and the consequent low level of returns for such performances, has been asserted to create a serious "motivation to learn" problem amongst American high school students: partly accounting for their reported lower performance levels. These likely reciprocal relationships between level of educational performance and its pay-off in the labour market are obviously very important, and have hitherto received relatively little attention in the research literature.

In contrast, our knowledge of Southern European countries, like Italy and Spain, is relatively limited. In these countries, there appears to be a very low correlation between level of education achieved and unemployment rates, particularly among the youngest cohorts (see OECD, Education at a Glance); and there appears to be no "numerus clausus", with a much higher percentage going on to third level - though the first year failure rate appears to be high. In these countries, the main concern about "educational failure" and unemployment appears to be about third level rather than early leavers, in contrast to the concerns in Northern Europe. These differences may relate to a number of factors, such as:
- certification and standardisation issues;
- clearer employer "upper qualification boundaries" to occupational recruitment, so that the "overqualified" are not recruited - or at least not to the same extent as in the USA, Britain and Ireland;
- the greater significance of the informal/family economy;
- the imbalance between occupational demand and education/training supply in these countries.

The nature of the ET/LM linkage

In the above discussion, we refer only to two basic characteristics of the ET system, and discuss some of their relationships to labour market outcomes. However, the nature of the relationship between ET and LM entry, or initial employment decisions, can vary substantially: from situations of almost complete isolation, or "decoupling", of the ET system from the LM system to one where both systems are highly interconnected/coupled.

We can conceptualise such variable linkages along the following ordered set of dimensions:

a) *Strong and direct shared interlinkage* - where employers and schools/trainers are directly linked (and sometimes legally governed/supported, with joint financial responsibility) in the provision and delivery of training, including on-the-job training, for young people; and where both employers and ET providers jointly agree on ET requirements for specified "occupations" in national economic contexts in which the

youth labour market is highly "occupationalised" (and generally highly segmented). This pattern is particularly evident in the German-speaking countries, and Denmark. In these cases both strong "content congruence" and "level congruence" take place between the output/qualifications from schools and intake to the labour market (Konietzka and Solga, 1995).

Previously, the importance of such apprenticeship arrangements for many skilled manual and service occupations would have been almost equally characteristic of major sectors of British industry - particularly in manufacturing and construction; however, since the beginning of the 1980s such apprenticeships have declined substantially in importance (see Ashton et al., 1993). In these cases, the traditional apprenticeship system was not as strongly linked to the ordinary school system as in the German system, and the proportion of young people on apprenticeship was considerably lower. In the British case, as in Australia and New Zealand, there is widespread shared delivery of work-based training which results in strong interlinkage for some sectors of the economy. However, for the purposes of this paper we view this work-based training as normally following the transition point from school to work rather than comprising part of the transition process.

b) *Collinear Linkage*: where a substantial occupational labour market exists, training for specific "occupational positions" takes place in second level schools and colleges, but where there is little or no joint delivery of training for young people moving from school in the labour force. In these cases, education and training requirements are specified and clearly known to the schools.

The Netherlands, for example, has over 200 occupations which require that specified second and third level courses/qualifications be taken before entry. So there is a substantial occupational labour market served by a substantial and (early) age-defined occupational ET programme provided on a full-time basis. Of course, in most countries there is a range of professional and higher technical positions (such as medicine, law and engineering; and more recently in computer science), where specified, long cycle, educational/professional training programmes at third level are required (sometimes statutorily, sometimes by professional bodies, and sometimes by employers).

In these systems, there is strong, though less pronounced, content and level congruence between the output/certification of schools/colleges and labour market entry. Such congruencies are covered by a combination of state regulations, professional/technical body regulations; and in countries like the Netherlands this is linked to an extensive "occupationalised" labour market governed by regulations.

c) *No direct linkage, but market signals from schools are strong, reliable and standardised*: Although employers are not involved in schooling or training, school "outputs"/certifications, and "signals" about the learned and innate competencies of graduates, are publicly certified and used actively by employers in making employment decisions. Education systems here are highly standardised but tend to be less differentiated in terms of school type or curricular tracking. There is a high degree of "level congruence" between educational outputs and labour market outcomes, but little regulated "content congruence". In addition to "levels",

examination grades may be widely used in access to employment (see Breen et al., 1995). With the exception of the American and Canadian second level systems, most of the English- speaking countries fall into this category; as does France and most of the Scandinavian countries.

d) *School placement function*: A somewhat stronger version of c) exists in countries like Japan, where besides open market "reading" and matching of educational outputs to job offers, employers may be directly linked to schools by the school guidance service acting as job placement officers in the employment system. This arrangement may be supported by, and officially acting in place of the state employment service, as in Japan (Nakajima, 1990; Rosenbaum and Kariya, 1991).

e) *No direct linkage and weak market signals*: The USA is the exemplar here. There is no standardisation of the educational system at first or second level. It tends to be comprehensive and relatively undifferentiated at second level. There also tends to be limited post-school training of those high school graduates or dropouts who do not go on to third level, compared to Germany (Schupp et al., 1994). On the other hand, a much higher proportion of the cohort both complete upper second level education and go on to third level (or other further) education in the USA and Canada; and the third level systems there appear to be much more open and flexible - both in terms of part-time participation, as well as "return" to full-time education of adult workers who have been employed for a number of years than is true for Germany, the UK (see Ashton et al., 1993) or for Japan (Nakajima, 1990).

In these cases, there appears to be both weak "content congruence" and weak "level congruence", though high school graduates tend to be at some advantage in relation to school drop-outs and third-level graduates have some advantage over high school graduates (Rosenbaum et al., 1990).

In Figure 2, we propose a more elaborated typology of ET systems by taking into consideration the nature and the strength of the relationship between ET and LM. The allocation of countries to cells is tentative; further research is needed on particular (types of) countries in order to identify the specific linkages between the education/training system and labour market outcomes. When the three variables are cross-classified in this way, it becomes apparent that some combinations are unlikely to occur and thus there are many empty cells. Having a high degree of standardisation and a strongly coupled linkage with the labour market, for instance, (whether with the German dual system or Dutch in-school model), makes sense only in the context of a high degree of differentiation of second level education and training: or of a high degree of "tracking" within second level education.

This typology also reflects the type of labour market structuration, particularly the prevalence of occupational labour markets. If we take the most structured ET and LM systems - the German or Dutch systems of education/training and LM linkage - for instance, it is obvious that such institutional arrangements could not exist without a highly occupationalised labour market. In addition, the degree of "social closure" implied by such a "closed system" - in terms of upward mobility chances - needs to be considered (see Erikson and Goldthorpe, 1992; Müller and Karle, 1993).

Figure 2
A Typology of ET Systems and Labour Market Linkages

	Degree of Standardisation of ET System	
	High	Low
School-Work Linkage	Degree of Differentiation of ET System	
	High ------------------ Low	High ---------------- Low
a) Strong Linkage (Dual System)	Germany Austria Switzerland Denmark	
b) Collinear Linkage	Netherlands	
c) De-coupled with Strong Market Signals	England Scotland France Ireland Finland Sweden Italy Israel	Spain*
d) School placement function	Japan	
e) De-coupled with Weak Market Signals		Canada USA

Note: * Medium standardisation

The position of some of the East European States and Russia in such a typology is unclear, given the rapid economic changes occurring in these countries. Koklyagina's study of Russia and the Baltic Republics (1995) suggests that the residues of the "command" economy are still very influential - at least in Russia: so there may be very strong connections between differentiated and standardised ("in-school") ET system and LM position, determined by state fiat rather than market forces.

The position of southern European countries is not clear - mainly because of the lack of comparative studies - and our linguistic limitations. The reasons for a weak relationship between level of education achieved and youth unemployment rates in Italy and Spain (where the overall rates are very high), for instance, are not at all clear (see OECD, Education at a Glance, 1995). An explanation of this pattern may necessitate taking account of other aspects of the national context, such as the different nature and "culture" of the production system, the pattern of economic development, and so on. Further research is needed to trace the specific linkages between educational and economic institutions in Southern Europe.

The above typology does not imply that countries cannot change their position. Obviously, medium to long term state policy/strategy can result in a shift from, for instance, a situation of no/low standardisation to one of high; or from high school/curricular differentiation to a more comprehensive/unitary system. Equally countries have varied in the importance attached to expanding participation in general upper second level education (e.g. France and Ireland) as opposed to expanding post-school vocational training provision (as in the UK) or expanding full-time school-based vocational courses (e.g. the Netherlands). These medium to long term state strategies concerning ET and LM system changes have not been effectively evaluated in any systematic way: though some individual, primarily descriptive, cross-national comparative studies have been carried out (see Ashton et *al.*, 1993).

Besides their relationships to employment decisions, the structure of ET and LM systems also has clear implications for the nature and level of social class/ethnic inequalities in educational achievement, access to employment and occupational achievement, as well as gender inequalities. Systems with early selection into separate ET streams/tracks - such as in Germany, or the Netherlands, appear to lead to increased inequality at the middle to higher levels of educational and occupational achievement, but are likely to be less exclusionary at the bottom - given the greater barriers to competition from the more highly qualified for positions at the bottom of the occupational ladder.

5. WORKING HYPOTHESES

In this section, we propose a number of hypotheses concerning ways in which the determinants of transition outcomes - including the impact of given types of policy intervention - may vary across countries with different types of education systems and ET/LM linkages. The hypotheses are informed by existing research but do not attempt to cover all influences or all policies. Their main purpose is to illustrate the potential of the conceptual framework, described above, to guide and structure future research.

5.1. Differentiation of the ET system

- Class inequalities in post-compulsory educational participation, particularly at third level, tend to be much greater in countries with differentiated systems and earlier selection than in undifferentiated systems (see Müller and Karle, 1993).

- Gender differences in the nature of post-compulsory education/training participation are greater in systems with earlier institutional differentiation in educational provision.

- The degree of matching between education/training received and job entry requirements ("content congruence") tends to be far greater in countries with highly differentiated ET systems (a and b above). This occurs at both an aggregate and individual level, through the provision of relevant skills for the economy, and lower levels of job changing among labour market entrants (Allmendinger, 1989).

- In countries with undifferentiated ET systems, employers tend to pay more attention to the "level" of education achieved. Where the system is also standardised in terms of

curriculum and certification, employers tend to use examination performance (grades) as a criterion for recruitment (see Breen et al., 1995).

- In countries with little ET differentiation and high levels of second-level participation, the dominance of third-level entry pathways significantly reduces the value and currency of other non-academic dimensions of educational achievement.

5.2. Standardisation of the ET system

- In standardised systems, the higher the proportion completing upper second-level education and the greater the importance of grades to labour market success, the greater the barriers to "success" for early school leavers and low achievers.

- In standardised ET systems with weak labour market linkages, the degree of success of interventions for those "failing" in the mainstream ET system is dependent on the degree of standardisation and quality control of such interventions.

- State training schemes which are not work-based are unlikely to have a positive impact on employment chances, unless their "outputs" are standardised and recognised by employers.

- Informal networks (family, relatives, friends) play a greater role in employment chances and allocation in less standardised systems with looser ET-LM linkages (such as the USA). This role reinforces social class and ethnic inequalities in access to employment.

- At the policy level, enhanced vocational guidance and placement functions are likely to have most effect where there is less direct linkage and weaker market signals between the ET system and the labour market. School guidance services and State employment agencies have the potential to improve access to the labour market for the less academically oriented.

5.3. Education/training-labour market linkage

- In type c), d) and e) systems (i.e., no direct linkage), work experience/training schemes will have most effect by giving young people access to the internal labour markets of sponsoring employers (Raffe, 1990). In systems of type a) and b) (i.e., strong or collinear linkage), such schemes are only likely to be effective if they can direct young people back into the mainstream training routes which confer recognised credentials.

- Policies emphasising curricular adaptation in systems (c), (d) and (e) are more likely to emphasise generic (core/key) skills, but face difficulty in having their certificated outcomes recognised and rewarded in the labour market. Employers are more likely to recognise standards in terms of "levels".

- The degree of content congruence may decline over time with occupational and industrial restructuring, and technological innovations, even in systems (a) and (b). Consequently, policies which emphasise curricular adaptability to take account of

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changing technologies and skills requirements are likely to have more impact in systems a) and b).

5.4. National contexts

- The prolongation of initial education and training increases the importance of family support for young people during the transition period. The reduction in state support for young students/trainees in many countries is likely to raise the "costs" of participation and thus may increase social class differences in education/training participation. Successful intervention policies (through the ET system and through social welfare/taxation policy, e.g. child benefit) need to be designed to complement this support and to fill gaps.

- The role of the family economy in shaping youth labour market integration may cross-cut the typology developed above. Research on the Irish context (Hannan, forthcoming) indicates that a significant minority of young people with poorer qualifications obtain their first job in family businesses. This pattern may be replicated in the southern European countries, although not enough is known about these systems.

- Low rates of labour market return to higher educational achievement have a negative feed-back effect on learning motivation within the school system (see Sadlak et al., 1986; Rosenbaum et al., 1990).

- The importance of ET qualifications for labour market success varies depending on whether young people enter local, regional, national or international labour markets. The more local the labour market, the greater the importance of informal networks in job search and employment decisions and the lower the relative importance of universalistic ET criteria in labour market entry. These effects vary across systems, being less marked in type a) and b) countries.

- Successful entry to national and international labour markets is highly dependent on the "level" of education achieved and the portability of qualifications into different national contexts.

CONCLUSIONS

These hypotheses are proposed tentatively since gaps in our knowledge of the transition process in particular (kinds of) countries may reduce the generalisability of certain findings. To systematically test these hypotheses, we would need to include the following:

- Countries with varying national contexts, including less developed countries along with those in the "core"; this would extend the analysis to include Southern Europe, the Atlantic periphery, Middle-Eastern countries, South America and countries on the Pacific Rim.

-Systems with varying education/training-labour market linkages (see above typology).

- Longitudinal data to allow for cross-national variation in the pace and timing of the transition process.

- A wider range of transition outcomes; migration, in particular, would be an obvious concern if the range of countries was expanded.

- Information concerning variation in outcomes within countries, e.g. on the basis of gender, social class, ethnicity or regional differentiation.

In addition, much greater co-operation is necessary between countries on the content of national surveys currently used for studying school to work transitions. Systematic cross-national studies are dependent on the involvement of research teams in a wide range of countries and on the availability of adequate funding for long-term work in the area.

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APPENDIX
A Summary of Selected Cross-National Studies on School to Work Transitions

Authors	Countries	Time period	Data Source	Transition Outcomes	Variation in Outcomes
Allmendinger (1989)	Norway, West Germany and USA	Year varies by country; adult samples	Life history data sets	Occupational prestige Job mobility/spells	Educational background
Ashton et al. (1993)	Canada and UK	1989; incl. all age groups	Labour Force Surveys; cross-sectional	Occupational allocation Educational participation	Educational background Gender (limited)
Béduwé et alii (1995)	France and Spain	1981-1990; all age groups	Labour Force Surveys; cross-sectional	Labour force participat. Employment/ unemploy.	Educational background
Bouder et alii (1995)	12 EU countries	1988-1991	Labour Force Surveys; cross-sectional	Labour force participat. Employment	Not considered
Brauns et al. (1995)	France and West Germany	1979 and 1991; 5-10 years after leaving school	Labour Force Surveys; cross-sectional	Labour force participat. Unemployment Occupational class	Gender Marital status No. of children Educational background
Furlong and Hammer (1995)	Scotland and Norway	1985-87; 17-19 year olds	Longitudinal surveys of young people	Educational participat. Full-time employment	Gender Social class background
Hannan et al. (1995)	Ireland, England and the Netherlands	1980s	Official statistics; annual survey of school leavers (Ireland)	School drop-out Unemployment	Educational background Gender (limited)

Hannan et al. (1994)	Ireland, Scotland and the Netherlands	1991; one year after leaving school	Regular School Leavers' Surveys; cross-sectional	Post-school destination (employment status, educational participation)	Gender Educational background
Heinz (1993); Evans and Heinz (1994); Roberts et al. (1994)	England and West Germany	1989 and 1991; aged 16-22	Qualitative interviews of matched samples; longitudinal component	Career trajectories (post-school destinations) Participation in schemes Establishment of independent household Marriage and family formation	Gender Educational background
Koklyagina (1995)	Britain, Russia and Estonia	Varies by country; aged 16-20	Longitudinal data sets	Career trajectories Occupational group	Gender (limited) Social class background (limited)
Konietzka and Solga (1995)	East and West Germany	1940s-1980s; four birth cohorts	German Life History Study; longitudinal	Occupational class Level consistency Content congruence	Gender Educational background
Marsden and Germe (1991)	France and Britain	early 1970s and 1980s	Secondary analysis of official statistics	Participation in apprenticeships Occupational group	Gender (limited) Training background (limited)
Marsden and Ryan (1991)	Belgium, France, Germany, Italy, Netherlands and UK	1966-1978	Secondary analysis of official statistics	Youth share of manual employment Industrial allocation Relative pay	Gender
Marsden and Ryan (1995)	Britain and Germany	1950-1990	Secondary analysis of official stat./literature	Participation in apprenticeships	Not considered

Maurice et *alii* (1986)	Germany and France	1970s	Matched case-studies of industries/firms	Type of job Job mobility	Educational background Social class background
Moncel (1995)	France and Britain	General	Review of literature ® framework for analysis	-	-
Nakajima (1990)	Japan, USA and Britain	1986; aged 25-30	Surveys of young people; cross-sectional	Employment status Occupational group Industrial group; size of firm Job satisfaction Educational participation Family formation	Gender Educational background
Oskarsdottir (1995)	Scandinavia and USA	General	Secondary analysis; *survey of Icelandic* school leavers	Drop-out from full-*time education*	Social class background
Raffe and Courtenay (1988)	Scotland and England	1984-86	Youth cohort surveys	Educational participation Post-school destination	Gender Educational background
Rosenbaum and Kariya (1991)	Japan and USA	1980-82; 2 years after school	Surveys of school seniors with follow-up; longitudinal	Occupational group	Gender Social class background Educational background

Schober-Brinkmann and Wadensjö (1991)	Sweden and West Germany	1970s and 1980s	Secondary analysis of official statistics	Labour force participation Employment v. unempl. Participation in labour market programmes Industrial distribution Pay	Gender
Schupp et al. (1994)	Germany and USA	1978-1990; 12 year period after leaving school	Household panel surveys; longitudinal	Employment Skills matching Skills transferability Wages/ wage growth	Not considered
Shavit et al. (1994)	Italy, Israel and Germany	Year varies by country; males aged 26-40 years	Household surveys; cross-sectional	Employment Occupational class	Educational background
Smyth and Surridge (1995)	Ireland and Scotland	1979-1991; one year after leaving school	Regular School Leavers' Surveys; cross-sectional	Post-school destination (employment status, educational participation)	Gender Social class background Educational background

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EDUCATIONAL DIFFERENTIATION
AND OCCUPATIONAL ALLOCATION
AMONG SCHOOL LEAVERS IN IRELAND AND SCOTLAND, 1981-1991

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Paula Surridge

Abstract

This paper examines trends in the occupational allocation of school leavers in Ireland and Scotland over the period 1981-1991. Ireland and Scotland provide a useful basis for comparison since education/training systems in both countries focus on the provision of general education, with a high degree of vertical differentiation and little horizontal differentiation. In spite of these similarities, previous research by the authors (Smyth and Surridge, 1995) indicates that the two countries differ significantly in patterns of school leaving and in the post-school destinations of young people.
This paper develops the previous research to examine the nature and levels of occupations entered by school leavers and the relationship between occupation entered and educational qualifications. Since the relationship between educational differentiation and labour market structuring is likely to be both cross-nationally variable and dynamic, the paper assesses change over time in this relationship, in particular over the period of recession in the early 1980s.
The paper uses data from the Irish and Scottish school leavers' surveys. Work had already been carried out on constructing a cross-national dataset and this work has been extended to add in information on the type of job, occupational group and industrial sector.

Résumé

Différenciation des niveaux d'instruction et insertion professionnelle des jeunes irlandais et écossais sortis de l'enseignement secondaire entre 1981 et 1991

Cet article examine les tendances concernant l'insertion professionnelle des jeunes sortis de l'enseignement secondaire en Irlande et en Écosse entre 1981 et 1991. L'Irlande et l'Écosse constituent une base utile à une étude comparative puisque les systèmes d'éducation et de formation de ces deux pays partagent une même volonté de dispenser une formation générale avec un haut degré de différenciation verticale et peu de différenciation horizontale. En dépit de ces ressemblances, une recherche précédente (Smyth et Surridge, 1995) montre qu'il existe entre ces deux pays des différences importantes dans les conditions de sortie du système éducatif et d'insertion professionnelle.
Cet article reprend les résultats précédents et examine la nature et le niveau des professions occupées par les jeunes au premier emploi ainsi que les relations entre niveaux scolaires et insertion professionnelle. Puisque les relations entre différenciation des niveaux éducatifs et structures du marché du travail varient à la fois d'un pays à l'autre et dans le temps, l'article évalue sur une période de plusieurs années les changements qui affectent cette relation, notamment pendant la période de récession au début des années 1980.
L'étude s'appuie sur des données d'enquêtes concernant les jeunes irlandais et écossais sortant de l'enseignement secondaire. Des travaux d'élaboration d'une base de données comparative sur l'insertion des jeunes avaient déjà été menés sur ces deux pays. Ils ont été prolongés afin de prendre en compte des informations concernant la nature des emplois, le groupe professionnel et le secteur industriel.

1. INTRODUCTION

This paper examines trends in occupational allocation among school leavers in Ireland and Scotland over the period 1981 to 1991. Ireland and Scotland provide a useful basis for comparison since there are some similarities between their education/training systems and since both countries can be regarded as economically and geographically "peripheral". In spite of these similarities, previous research by the authors (Smyth and Surridge, 1995) indicates that the two countries differ significantly in patterns of school leaving and in the post-school destinations of young people. This paper develops upon that research to examine the nature of the occupations obtained by school leavers, and to analyse the way in which the differentiation of the youth labour supply (in terms of education, social background and gender) interacts with labour market stratification. Since the relationship between educational differentiation and labour market structuring is likely to be both cross-nationally variable and dynamic, the paper assesses change over time in this relationship.

2. EDUCATIONAL ATTAINMENT AND POST-SCHOOL DESTINATIONS IN IRELAND AND SCOTLAND

A number of similarities are apparent between the Irish and Scottish educational systems. Firstly, both systems focus on the provision of general education with little horizontal differentiation in terms of subject specialisation or "tracking". Secondly, both systems are vertically differentiated with examination grades impacting significantly on access to further education and to employment (see Breen et al., 1995; Shelly, 1988). In spite of these similarities, post-compulsory participation in the second-level system differs significantly between Ireland and Scotland, with Irish young people more likely to stay on to the end of second-level schooling than their Scottish counterparts.

Significant differences in the post-school destinations of Irish and Scottish school leavers are also apparent. Firstly, the proportion of leavers entering higher education is greater in Ireland than in Scotland, with the difference increasing over the 1980s. Secondly, the proportion directly entering employment is higher in Ireland than in Scotland, although this proportion has declined over time in both countries. Thirdly, the proportion on schemes / apprenticeships nine to twelve months after leaving school is higher in Scotland than Ireland, with the difference increasing over the 1980s. Fourthly, the proportion unemployed is similar for both Ireland and Scotland in the early 1980s, but the percentage is higher in Ireland thereafter.

These differences in educational participation and post-school destinations can be seen in the context of differing institutional responses to growing unemployment levels among young people over the 1980s. In the Irish case, the main responses to growing unemployment have involved the mainstream educational system, encouraging delayed exit from the school system and expanding provision of higher education. In the Scottish case, delayed exit from school and an increasing proportion going on to higher education have also been apparent. However, the main strategy adopted over

the 1980s has been the expansion and restructuring of post-school youth training provision.

3. DATA SOURCES

This paper uses data from surveys of school leavers in Ireland and Scotland. An annual survey of school leavers has been carried out in Ireland by the Economic and Social Research Institute since 1980. The survey involves personal interviews with those who had left second-level education in the previous academic year; thus, those interviewed in 1980 had left school in the academic year 1978/1979, and so on. A sample of 3 % of school leavers is drawn from a sample of 25 % of all schools in Ireland, resulting in a total sample of approximately 2 000. In the following three years, the other 75 % of the schools are included in the survey. The detailed questionnaire covers the educational and training experience, employment status and employment characteristics of school leavers.

The Scottish School Leavers Survey has been carried out biennially since 1977. Each survey has been timed to contact the young people around nine months after the session in which they left school. Thus, the 1979 survey covered school leavers in the 1977/1978 session. A varying sample, selected by birth date, is sent a postal questionnaire. The surveys are multi-purpose, covering educational experiences, attainment, labour market history, training, course enrolments and family background (for further details, see Tomes, 1988).

For the purposes of this paper, data are reweighted to correct for non-response within each of the countries.

4. ISSUES IN CROSS-NATIONAL COMPARISON

The Irish and Scottish surveys were used to derive a common set of variables for every second year between 1981 and 1991 (i.e., 1981, 1983, 1985, 1987, 1989, 1991). Using data from the 1981 to 1991 period also allows for a comparison of patterns among the school leavers with general trends among the youth and adult populations as indicated by the relevant Censuses of Population.

A number of difficulties arise in constructing cross-national measures; the kind of information and the categories used may differ between countries, while institutional differences may make it difficult to compare "like with like". Constructing measures over time introduces further complications since the nature of the data collected (such as the questions asked and the categories used) tends to change over time as additional information is considered necessary to reflect institutional changes and/or research interests.

Many of these difficulties are apparent when analysing post-school destinations and have been discussed in greater detail in Smyth and Surridge (1995). However, additional considerations become apparent when considering occupational allocation. Firstly, the boundaries between labour market statuses - "jobs", "schemes" and

"unemployment" - are far from clear-cut. In our earlier paper, we grouped those on training schemes and apprentices in order to examine differences between Ireland and Scotland in institutional responses to youth unemployment. However, when considering occupational allocation, it is clear that apprenticeships are a well-established entry route into many employment segments. For this reason, we have included "employed apprentices" among those in employment, but counted as "non-employed" those on schemes (such as the Youth Training Scheme in Scotland) which may be work-based but do not involve an employment contract[1].

Cross-national comparison of occupations can be a difficult process. Firstly, particular occupations may vary in status, job content and conditions across different countries. Secondly, occupational classifications tend to differ markedly between countries and also over time, often in line with changes in Census classifications. The Irish and Scottish occupational classification systems are currently quite different. In addition, three different systems had been used to code the Irish school leavers surveys, and two different systems had been used to code Scottish school leavers surveys, over the period 1981 to 1991.

Our primary interest was in examining the type of occupations held by school leavers rather than in occupational level or other hierarchy-based approaches. For this reason, a modified version of the Scottish Standard Occupational Classification (SOC) seemed most appropriate. The modifications included the following:

- The "professional" and "associate professional" categories were combined into one "professional" group, partly because these groups are difficult to distinguish in the Irish classification but also because the number of school leavers in these categories is likely to be very small.

- The SOC distinction between "craft" and "operative" occupations caused considerable problems in matching to the Irish equivalents. For this reason, a distinction between "skilled", "semi-skilled" and "unskilled" manual workers seemed to make more sense. This distinction was derived by using the social class classifications (into "skilled", "semi-skilled" and "unskilled") that SOC "craft" and "operative" jobs are assigned to.

- A separate "agricultural" category was used as this group is likely to have a distinctive profile in terms of social background.
The resulting occupational categories are:
1. Managers / Administrative workers
2. Professional workers
3. Clerical workers
4. Personal service workers
5. Sales workers
6. Skilled manual workers

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[1] The extent to which employers use work-based YTS trainees to "fill places" within their firm will be explored in the following section.

7. Semi-skilled manual workers
8. Unskilled manual workers
9. Agricultural workers.

Occupational codes were matched into groups for 1991 initially. Previous work had been carried out on developing consistent occupational categories for Irish surveys over the period 1980 to 1993[2], so it was relatively unproblematic to match earlier years to 1991. In the Scottish case, additional work was carried out to regroup earlier years along the same lines as 1991.

A third issue relates to comparing social class classifications between countries. The most commonly used schema for cross-national comparison is that devised by Erikson and Goldthorpe (1992). This schema would have been preferable in allowing us to place our findings in a broader comparative context. However, since the Irish surveys do not collect complete information on the employment status of fathers, it was not possible to use this approach. Instead, an adapted version of the Scottish social class schema was developed. In the Irish classification, farmers are allocated to social classes on the basis of size of farm. Given that such information is not available in the Scottish surveys, a separate group of farmers has been created. It must be noted, however, that this allocation may obscure differences among farmers in their socio-economic status.

The social class categories used in the analysis are:
1. Higher Professional
2. Lower Professional
3. Routine / Other Non-Manual
4. Skilled Manual
5. Semi-skilled Manual
6. Unskilled Manual
7. Farmers.

Variables used in the analysis are described in greater detail in Appendix.

5. WORKFORCE ALLOCATION BY AGE-GROUP IN IRELAND AND SCOTLAND

This section describes differences in industrial and occupational allocation in Ireland and Scotland, distinguishing between those aged under 20 and those aged 20 years of age and over. Data are derived from Censuses of Population in Ireland and Scotland. Because of the level of aggregation at which data are available for Scotland, the categories used for each country are only broadly comparable[3]. Detailed information on occupation and industry by age-group are available for Scotland for 1991 only.

Over the period 1981 to 1991, there was a decline in the proportion of the workforce aged under 20 in both Ireland and Scotland. In 1981, young (under 20) workers made

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[2] We are very grateful to Selina McCoy for her work in ensuring consistency between years in the Irish occupational classifications.
[3] We are grateful to Angela Canny for her assistance with special tabulations of the Irish Census of Population.

up one-tenth of the total workforce, declining to 5 % by 1991; the trend was remarkably similar in Scotland, declining from 9.5 % of the workforce in 1981 to 5.6 % by 1991. In Ireland, the decline in young workers is apparent within all of the occupational groups. Detailed information is not available for Scotland but other analyses (see Raffe, 1984, on industrial distribution) would appear to indicate that this decline has taken place in all sectors of the economy.

Charts 1 and 2 present the industrial distribution of the Irish and Scottish workforces by age group. It is apparent that younger workers tend to be concentrated in different industrial sectors than their adult counterparts. It is possible to measure the extent of this difference using an index of dissimilarity. This indicates that almost one-quarter of young workers in Ireland and Scotland would have to change industries in order to have a similar distribution to adults[4]. It should be noted that the industrial categories used are very broad and greater differences might be expected at a more detailed level of analysis.

Chart 1a
Industrial distribution by age group,
Males, Ireland 1991

Chart 1b
Industrial distribution by age group,
Females, Ireland 1991

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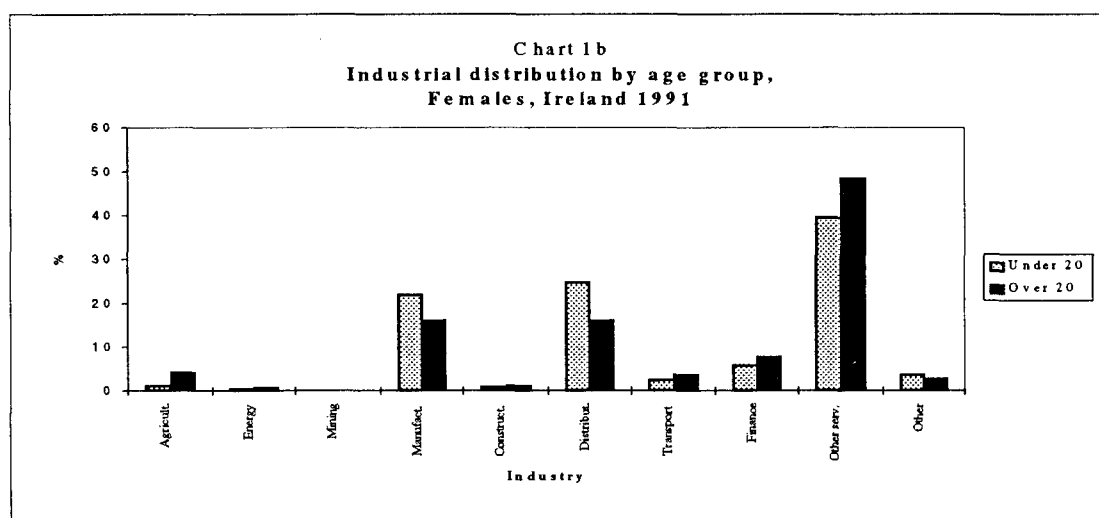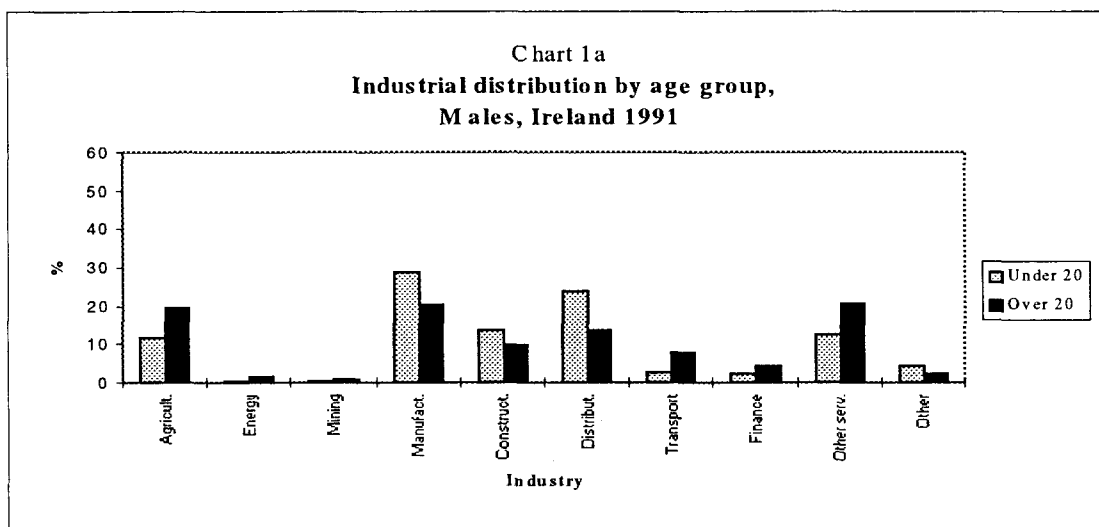
[4] Young women in Ireland are an exception to this pattern; their distribution is somewhat closer to their adult counterparts than among other groups.

In both Ireland and Scotland, younger workers tend to be over-represented in distribution and, to a lesser extent, in construction industries. In contrast, they tend to be under-represented in agriculture, other services[5], mining and energy sectors. There are some differences between the two countries. In Ireland, younger workers are under-represented in financial service industries (Charts 1a and 1b) whereas young women in Scotland are over-represented in this sector compared to their distribution in the workforce as a whole (Chart 2b). In addition, young workers in Ireland are over-represented in manufacturing industry (Charts 1a and 1b) while males in Scotland are slightly under-represented in this sector (Chart 2a).

Chart 2a
Industrial distribution by age group
Males, Scotland 1991

Chart 2b
Industrial distribution by age group
Females, Scotland 1991

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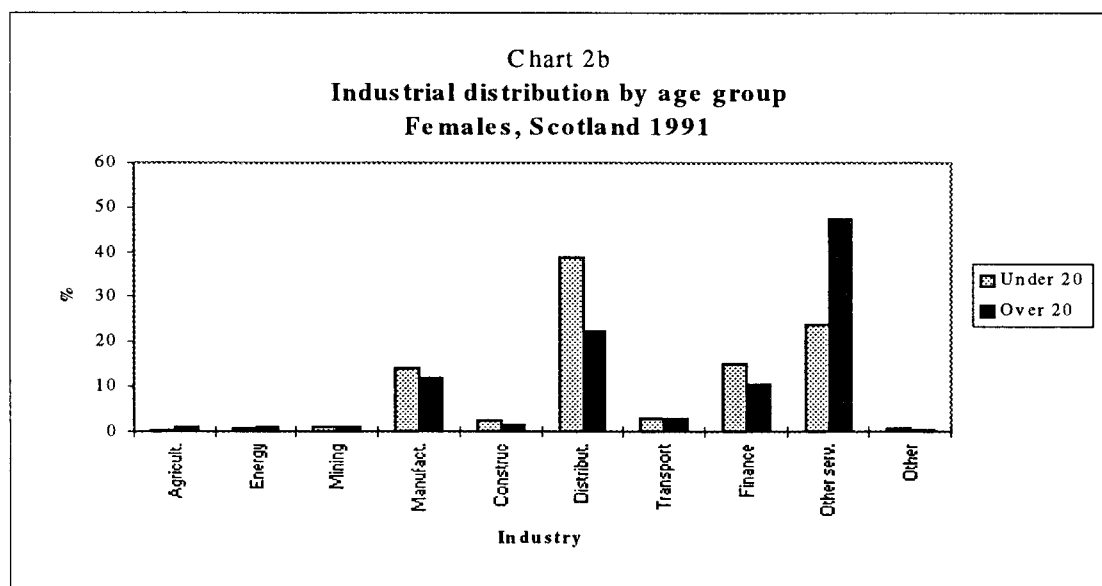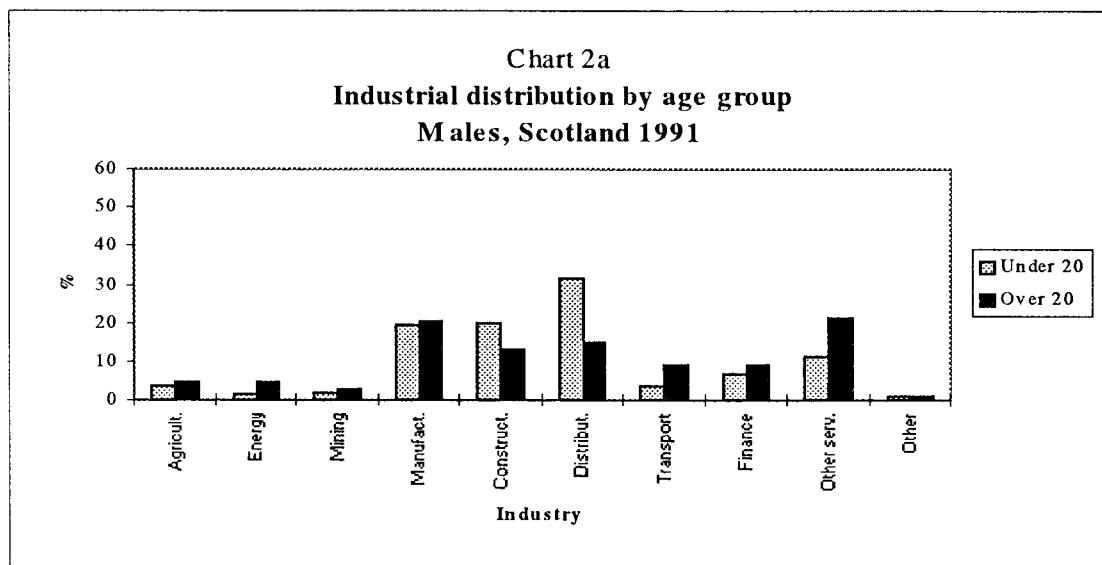
[5] More detailed information on Ireland indicates differences within this sector, with younger workers over-represented in personal services and under-represented in professional services.

Charts 3 and 4 present the occupational distribution of the workforce in Ireland and Scotland by age-group. It is apparent that younger workers tend to be concentrated in different occupational groups than their adult counterparts in both countries. Indices of dissimilarity indicate that around 30 % of young workers would have to change occupations in order to have the same distribution as adult workers.

Chart 3a
Occupational distribution by age group
Males, Ireland 1991

Chart 3b
Occupational distribution by age group
Females, Ireland 1991
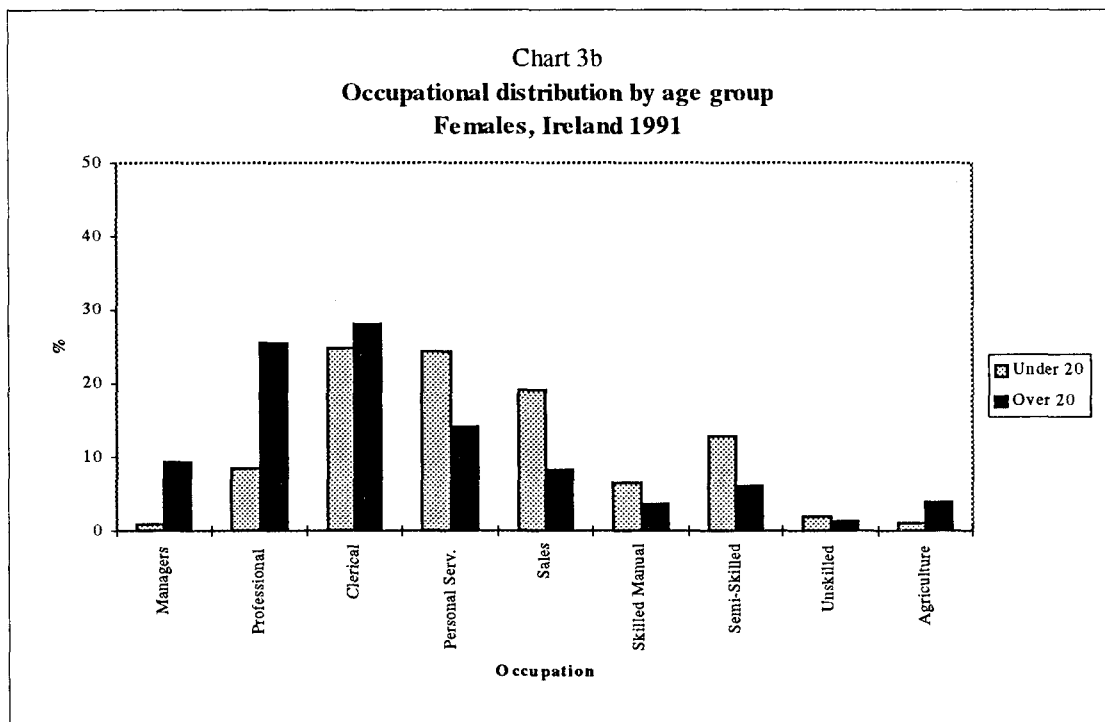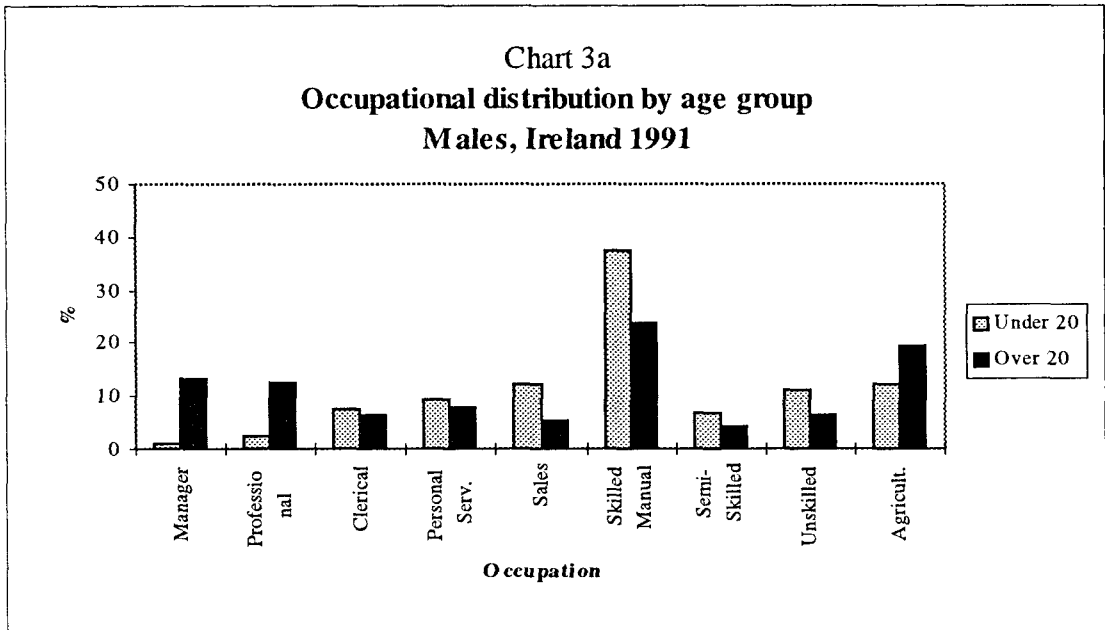
In both Ireland and Scotland, young workers are under-represented in managerial and professional occupations. This pattern is as expected, given the higher qualifications,

and consequently longer period of full-time education, required for entry to these groups (see Sexton et al., 1996, on the Irish situation). In Ireland, young workers are under-represented in agricultural jobs (Charts 3a and 3b), although this group cannot be distinguished in the Scottish data. Young workers are over-represented in personal service, sales and skilled manual or craft occupations. In Ireland, young workers are over-represented in semi-skilled and unskilled manual jobs (Charts 3a and 3b); this over-representation in unskilled jobs increased over the period 1981 to 1991. Occupational categories in Scotland are not directly comparable; here young males are under-represented as plant / machine operatives but over-represented in "other" jobs, a category which includes some partly skilled and unskilled manual jobs (Chart 4a). In Scotland, young workers are over-represented in clerical occupations while young women in Ireland are under-represented in these jobs. This pattern has changed over time, with a marked decline in the proportion of young women in clerical jobs in Ireland over the period 1981 to 1991.

Chart 4a
Occupational distribution by age group
Males, Scotland 1991

Chart 4b
Occupational distribution by age group
Females, Scotland 1991

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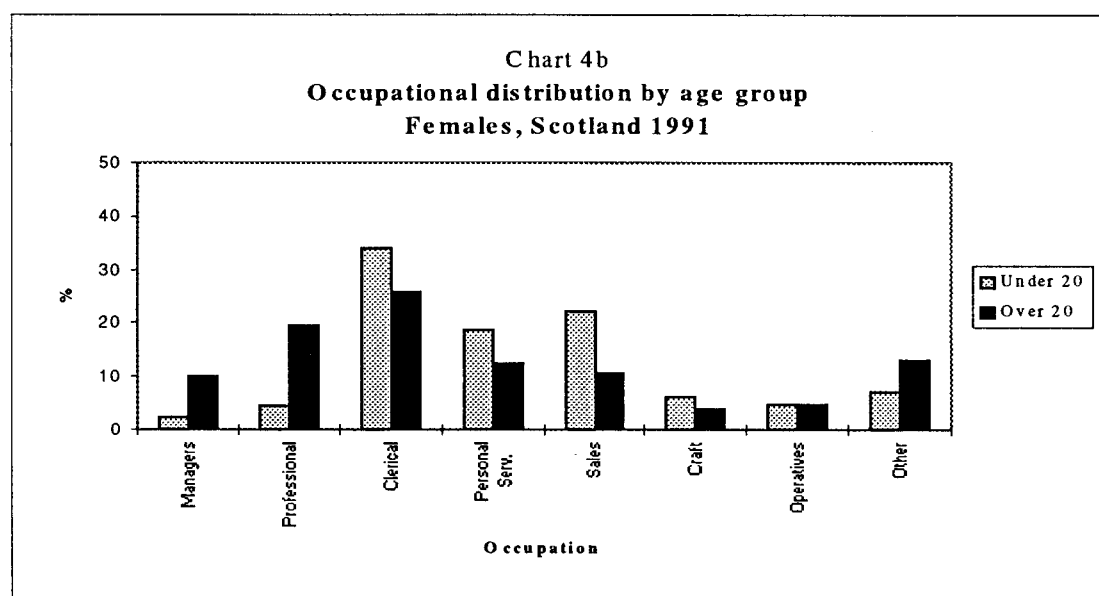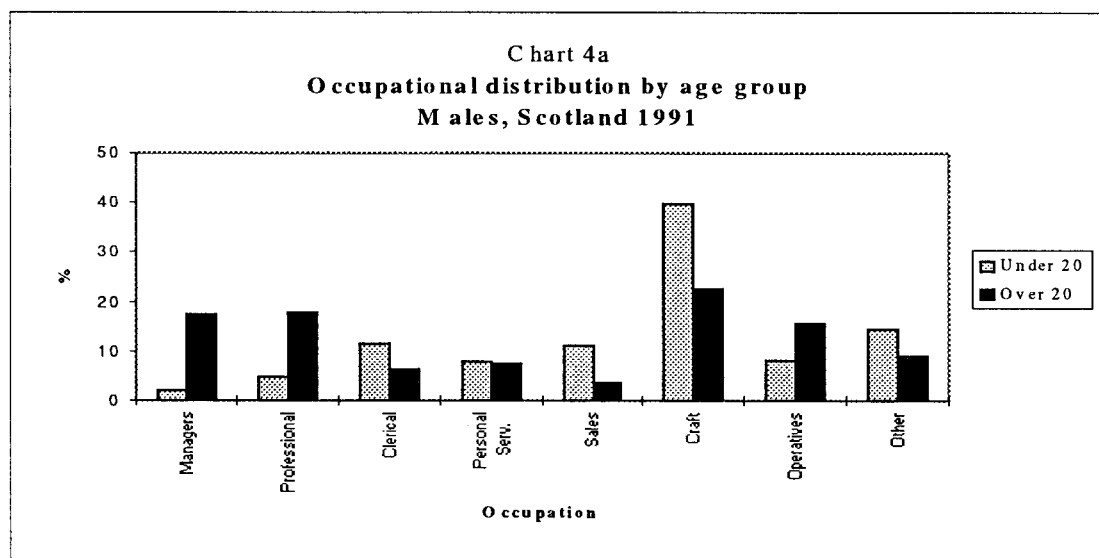
In summary, young workers in both Ireland and Scotland tend to be concentrated in different industries and occupations to their adult counterparts. There are a number of similarities between the two countries, in particular, the exclusion of young people from managerial and professional jobs, and the disproportionate reliance of personal service, distribution / sales and skilled manual sectors on young workers. However, there are also some differences between the two labour markets in the employment of young people in certain jobs and industries. The following sections draw on school leavers surveys to present a more detailed picture of the types of jobs held by labour market entrants.

6. WORKFORCE ALLOCATION OF SCHOOL LEAVERS IN IRELAND AND SCOTLAND

In the previous section, we examined changes in the occupational and industrial allocation of young people using aggregate data from the Censuses of Population. This section uses data from the School Leavers Surveys to examine these changes in more detail. However, before considering differences in occupation and industry distributions, there are two key differences between the two countries which are important for the interpretation of occupational and industrial allocation.

Firstly, Ireland and Scotland have different participation rates in post-compulsory education. Table 1 shows that Ireland has a higher participation rate in full-time higher education than Scotland. This should be kept in mind when considering the data on occupational allocation as it means that the type of young person entering the labour market in the two countries may be very different. (See Smyth and Surridge, 1995 for a more detailed discussion of these differences).

Table 1
Destinations of School Leavers, 1981-1991

	1981	1985	1991
Full-time Higher Education			
Ireland	17	22	33
Scotland	14	14	17
Full-time Other Education			
Ireland	6	3	3
Scotland	9	10	12
Full-time Employment*			
Ireland	59	35	38
Scotland	52	38	39
Schemes			
Ireland	1	14	7
Scotland	12	19	18
Unemployed			
Ireland	13	21	15
Scotland	13	15	9
Other			
Ireland	4	6	5
Scotland	1	4	5

Note: * includes employed apprentices; the 1981 figures for schemes in Ireland underestimate the actual proportion.

Secondly, as highlighted in Table 1, one of the main differences between the two countries is the level of participation in apprenticeships and training schemes[6]. One of the most important changes in the labour market experiences of young people in Scotland has been the growth of training schemes. Such schemes now account for approximately half of all "junior" school leavers in Scotland (Smyth and Surridge, 1995) and are therefore crucial to an understanding of the industrial and occupational distribution of labour market entrants. However, there has been no comparable growth of scheme provision in Ireland, making comparison of the two countries difficult. It may be argued, for example, that including "schemes" with "real" employment is merely masking unemployment among young people in Scotland but, conversely, to include those on schemes with the unemployed ignores the training and employment prospects of those following training schemes.

As described in Section 4, for the purposes of modelling occupational outcomes, only those who are "employed apprentices" are treated as being in employment to ensure comparability across the countries. However, it is also important to take the occupational and industrial allocation of those on training schemes into account.

Table 2 shows the relative importance of different types of training schemes in Scotland over the period. At the start of the period, all training schemes were unemployment based and hence there are no young people on the "work-based" schemes. However, by 1985 almost one quarter of labour market entrants were on work-based schemes with a consequent decline in those in "employment" (see Raffe, 1988 for a more detailed discussion of the changes to training schemes during the period).

Table 2

Types of Training Schemes/ Employment in Scotland, 1981-1991

	1981	1985	1991
Non-work based training scheme	19	9	7
Work-based Scheme	-	24	26
Employed Apprentice	31	22	26
Employed (not on scheme / apprenticeship)	50	45	41

Table 3 compares the occupations occupied by those young people on work-based schemes with those occupied by young people in employment (including "employed apprentices"). The table shows that the differences between the two groups are greatest in relation to industrial allocation while the occupational allocations are broadly similar.

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[6] The figures in Table 1 differ from those in Smyth and Surridge (1995) and those discussed in Section 2 due to the re-allocation of employed apprentices to the full-time employment category.

Table 3
Industrial and Occupational Allocation of School Leavers in Work-based Schemes (Scotland only), 1991

Industry	Employed (incl. Apprentices)	Work-based Schemes	Occupation	Employed (incl. Apprentices)	Work-based Schemes
Agriculture	2	4	Managers/Profession	9	6
Manufacturing	23	13	Clerical	26	28
Construction	12	15	Personal Services	17	17
Distribution	17	21	Sales	8	10
Transport	3	4	Skilled Manual	29	29
Finance	15	8	Semi-Skilled Manual	8	2
Public Admin.	7	7	Unskilled Manual	1	2
Professional Services	7	10	Agricultural	3	6
Personal Services	10	5			
Other Services	4	13			

Compared to those in employment, those on work-based schemes are under-represented in the manufacturing, financial and personal services sectors. Conversely, they are over-represented in distribution, professional services, other services and construction. Since the data are cross-sectional rather than longitudinal in nature, we cannot determine whether those on work-based schemes remain in the same occupations and industries once the scheme is completed. For the remainder of the paper, those on work-based schemes are excluded from the category of "employment".

Table 4 shows the occupational allocation of school leavers in Ireland and Scotland. The distribution of males and females is shown separately due to the degree of gender segregation within the labour market. There are some similarities between the two countries. For males, skilled manual occupations are the most important occupational group with a fairly even distribution across the rest of the categories. Females in both countries are concentrated in clerical, sales and personal services jobs. In spite of these similarities, there are a number of key differences. Scotland appears to have retained a higher proportion of males in skilled manual occupations, while this group has declined substantially in Ireland. Among females, Ireland has seen a substantial decline in the proportion employed in clerical occupations while this category has increased slightly in Scotland.

Table 4

Occupational Allocation by Country, 1981-1991

	1981		1985		1991	
	Ireland	Scotland	Ireland	Scotland	Ireland	Scotland
Males						
Managers/ Professional	7	8	4	7	7	9
Clerical	15	7	8	11	13	12
Personal Services	9	9	12	12	11	11
Sales	8	5	13	6	10	5
Skilled Manual	47	45	36	39	34	49
Semi-Skilled Manual	3	11	2	12	8	8
Unskilled Manual	2	8	10	8	11	2
Agricultural	9	7	14	6	7	5
Females						
Managers/ Professional	14	13	15	7	11	9
Clerical	54	40	29	42	36	43
Personal Services	11	15	23	18	22	24
Sales	10	15	13	12	16	11
Skilled Manual	2	11	11	15	5	4
Semi-Skilled Manual	7	4	5	4	6	8
Unskilled Manual	1	1	3	1	2	1
Agricultural	1	1	1	0	1	1

Table 5 considers the industrial distribution of school leavers. Again there are a number of similarities between the two countries. Males tend to be concentrated in "traditional" male industries such as manufacturing, construction and distribution,

although distribution is more significant in Ireland. Females are concentrated in service industries and distribution. There are a number of differences between the two countries in trends over the 1980s; for example, the financial services sector has declined in Ireland (among females) but increased in Scotland among both males and females.

Table 5

Industrial Allocation of School Leavers by Country, 1981-1991

	1981		1985		1991	
	Ireland	Scotland	Ireland	Scotland	Ireland	Scotland
Males						
Agriculture	9	7	12	5	8	4
Manufacturing	26	31	28	26	32	29
Construction	14	17	10	20	16	20
Distribution	20	13	30	16	24	18
Transport	6	5	4	3	2	3
Finance	4	4	3	7	5	7
Public Admin.	10	11	3	12	2	10
Professional Services	8	1	2	2	4	2
Personal Services	3	4	6	5	7	4
Other Services	1	2	3	1	1	4
Other Industry	1	6	0	3	0	0
Females						
Agriculture	2	0	2	0	0	1
Manufacturing	19	20	23	25	16	17
Construction	21	2	0	3	1	3
Distribution	9	20	21	19	30	15
Transport	4	2	2	3	4	3
Finance	10	12	7	14	7	24
Public Admin.	10	8	3	5	31	4
Professional Services	23	12	22	10	6	13
Personal Services	10	13	18	14	20	17
Other Services	0	2	2	2	3	4
Other Industry	1	9	0	5	1	0

The remainder of the paper will focus on differences between Irish and Scottish school leavers in their occupational allocation. However, these differences will be placed in the context of industrial trends.

7. MODELLING EMPLOYMENT CHANCES 1981-1991

Section 2 has described differences between Irish and Scottish leavers in post-school destinations. Before going on to describe the type of jobs held by school leavers, it may be useful to assess differences between Irish and Scottish leavers in their odds of obtaining full-time employment, controlling for other factors. Analyses were carried out of those in the labour market (i.e., in full-time employment, on schemes or unemployed) in 1981, 1985 and 1991. For these purposes, "employed apprentices" are considered as being in full-time employment while those on schemes or

unemployed are considered as non-employed. For the purposes of comparison, the *Logit* models presented use the same variables as those for occupational allocation below, and males and females are modelled separately.

7.1. Male Leavers

Table 6 presents the results of a *Logit* model predicting full-time employment among males and females over the period 1981 to 1991. For males, social class background has a significant impact on the log odds of obtaining full-time employment. Even controlling for educational level, those from a professional[7] background are more than twice as likely to obtain employment as those from an unskilled manual background, while a significant, but less marked, advantage also obtains for those from a non-manual or farming background. Conversely, those with fathers who are not employed are less likely to obtain employment than those with employed fathers. This pattern is likely to reflect more restricted access to networks for job recruitment among non-employed men.

Table 6
Logit Model Predicting Full-Time Employment, 1981-1991

	Males	Females
Constant	1.218***	1.175***
Scotland	-0.708***	-0.848***
Year:		
1985	-1.574***	-1.413***
1991	-0.931***	-0.923***
Father non-employed	-0.592***	-0.531***
Social class:		
Professional	0.805***	0.663***
Other non-manual	0.439**	0.590***
Skilled manual	0.159	0.306**
Semi-skilled manual	0.179	0.270*
Farmer	0.601***	0.598***
Senior Leaver	0.012	0.477***
Interaction terms:		
Senior Leaver- Scotland	0.570***	0.375**
Scotland- 1985	0.853***	0.912***
Scotland- 1991	0.454***	0.326
Log Likelihood	-3790.4	-3518.7
Number of cases	*6134*	*5946*

Base Category: Irish, 1981, Employed father, Unskilled manual class, Junior leaver.
Note: * p<.05, ** p<.01, *** p<.001.   See Appendix for a definition of the variables.

Contrary to what might be expected, staying on to the final second-level exam does not improve chances of employment among males in Ireland (see Breen et *al.*, 1995, on the importance of grades rather than level in the Irish context). In contrast, educational level has a more positive impact on employment chances among Scottish

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[7] "Higher professional" and "lower professional" categories are grouped due to the relatively small numbers of those from a higher professional background entering the labour market rather than going on to higher education.

leavers controlling for country and year[8]. The chances of being in employment decline over time, especially over the period 1981 to 1985, reflecting recessionary conditions. The pattern of change is somewhat different in Scotland, with a less marked decline over the period.

Table 7 presents a similar model, but using a more detailed measure of educational attainment for the period 1985 to 1991[9]. The pattern is broadly similar, when this more detailed measure of education is used. Even controlling for educational attainment, those from a professional or farming background have increased chances of obtaining employment relative to those from an unskilled manual background[10]. It is found that educational attainment, as opposed to level, does make some difference to employment chances among Irish males; males who are qualified for higher education (i.e., those who have obtained "honours" in their final exams) are 1.9 times more likely than those with no/minimum qualifications to obtain employment. The pattern of return to educational attainment differs for Scottish leavers, where both first level plus qualifications and higher education qualifications have a more positive impact than in Ireland, perhaps reflecting the relative scarcity of those with Highers in Scotland.

Table 7
Logit Model Predicting Full-Time Employment, 1985-1991

	Males	Females
Constant	-0.353*	-0.645***
Scotland	0.054	
Year 1991	0.617***	0.473***
Father non-employed	-0.296***	-0.513***
Social class:		
Professional	0.629***	0.512**
Other non-manual	0.208	0.540**
Skilled manual	0.012	0.332*
Semi-skilled manual	0.085	0.370*
Farmer	0.439*	0.576***
Educational attainment:		
First level quals	0.199	0.962***
First level plus quals	0.122	0.656***
Higher education quals	0.637**	1.668***
Interaction terms:		
First level - Scotland	0.305	-0.470*
First level plus-Scotland	0.830***	0.364
Higher ed. quals-Scotland	0.590*	-0.052
Scotland- 1991	-0.350*	-0.573***
Log Likelihood	-2386.2	-2178.5
Number of cases	*3691*	*3508*

Base Category: Irish, 1985, Employed father, Unskilled manual class, No/ minimum qualifications.

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[8] It should be noted that overall employment chances are somewhat lower in Scotland than Ireland.

[9] Data on exam grades are not available for Irish school leavers prior to 1985.

[10] The coefficient for non-manual is no longer significant, indicating that some of the positive effect of non-manual background seen in Table 6 is due to differential exam performance among this group.

In addition to the models presented here, a further analysis was carried out to test whether the impact of social background differs between Ireland and Scotland. There is some evidence that, controlling for educational level, the sons of farmers in Scotland are more likely to secure employment than their Irish counterparts; however, this effect becomes non-significant when the more detailed measure of educational attainment is used. Having a non-employed father has a more strongly negative effect in Scotland than in Ireland, no matter what measure of education is used.

7.2. Female Leavers

Employment chances among female leavers appear to be highly differentiated by social class background (Table 6). Unlike their male counterparts, being from a skilled or semi-skilled manual background secures some advantage in access to employment relative to being from an unskilled manual background. Having a non-employed father is negatively associated with employment chances. Unlike males, educational level has a significant impact on employment chances among females; female senior leavers are 1.6 times more likely to obtain employment than junior leavers. As for males, the return to staying on in school is higher in Scotland than in Ireland. There is a decline in female employment over the period, with less of a decline in Scotland over the early 1980s.

The differentiation of female leavers by social class background persists even when the more detailed measure of educational attainment is used (Table 7). There is a marked difference in employment chances by educational attainment; those qualified for higher education are over five times as likely to obtain employment as those with no / minimum qualifications. Having first level or first level plus qualifications also secures an advantage, although unexpectedly the returns to first level plus qualifications are weaker than for first level qualifications[11] . The returns to first level qualifications are somewhat less in Scotland, though there is no significant difference in other categories. There is no significant variation between Ireland and Scotland in the impact of social background on the employment chances of female leavers.

In summary, the effect of educational background on employment chances differs somewhat for Irish and Scottish males, with a stronger impact of school completion in Scotland. Only those Irish males who do well in their final examination are at an advantage in securing employment, while staying on to the "Highers" results in an employment advantage for Scottish males. In contrast, among females both level and educational attainment influence employment chances in Ireland and Scotland. In both countries, social background has a direct and significant effect on employment, over and above the impact of education.

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[11] This pattern may reflect the heterogeneity of this group in Ireland, with consequent variation among the group in employment chances.

8. MODELLING OCCUPATIONAL ALLOCATION 1981-1991

Section 5 describes the differences between the type of jobs held by Irish and Scottish school leavers over the period 1981 to 1991. This section uses multivariate analyses to explore whether differences between the two countries hold, all other things being equal; that is, whether these differences reflect differences in educational attainment and social background between the two groups rather than societal differences. The main questions of interest are:

1. What are the main factors influencing type of job held among Irish and Scottish leavers?

2. Does the pattern of occupational change over time differ between Ireland and Scotland?

3. Does the impact of educational qualifications differ between Ireland and Scotland?

Multinomial *Logit* models were estimated using the LIMDEP package. Due to computing limitations, not all of the surveys between 1981 and 1991 could be employed. Instead, data from the years 1981, 1985 and 1991 are used; these data should give an accurate reflection of changes over the whole period. Because of the marked gender differences in occupational allocation identified in Section 5, models are presented separately for male and female school leavers. Table 8 compares the fit of the models attempted. Model 3 is found to have the best fit for both males and females. This model includes the main effects (country, year, social background, educational attainment) and allows the impact of qualifications and year to vary by country.

Table 8
Multinomial *Logit* Models: Log-Likelihood Values

	Males 1981-91 LL	Para-meters	Males 1985-91 LL	Para-meters	Females 1981-91 LL	Para-meters	Females 1985-91 LL	Para-meters
Zero Slopes	-6668.0		-3639.0		-5800.9		-3166.3	
(1) Main effects	-5999.8	70	-3239.7	77	-5357.9	40	-2849.4	44
(2) 1 + C*Q	-5983.4	77	-3224.6	98	-5352.8	44	-2839.6	56
(3) 2 + C*Y	-5930.3	91	-3203.7	105	-5315.6	52	-2834.6	60
(4) 3 + Q*Y	-5916.6	105	-3188.6	126	-5307.6	60	-2829.5	72
(5) 4 +C*Q*Y	-5910.4	119	-	-	-5300.6	68	-2817.5	84

Note: There were convergence problems with model 5 for males 1985-91. Symbols: C = country; Q = education; Y = year.

8.1. Male Leavers

Table 9 presents the results for a multinomial *Logit* model (Model 3) for males in 1981, 1985 and 1991. The log odds of being in a particular occupational group are compared to the log odds of being in the base category, unskilled manual workers. While having a non-employed father reduces the chances of obtaining full-time

employment (see Tables 6 and 7), it does not impact on the type of job obtained. Social class background has a direct and significant impact on employment in particular occupational groups, over and above the effect of educational level. Educational level enhances access to all occupations, relative to unskilled workers, with the exception of skilled manual and agricultural categories. In general, the impact of educational level on occupational allocation does not vary significantly between Ireland and Scotland.

Table 9

Occupational Allocation among Male Leavers, 1981-1991

(Multinomial *Logit* Model contrasting with Unskilled Manual Workers: Additive Estimates)

	Manag./ Profession.	Clerical	Personal Services	Sales	Skilled Manual	Semi- skilled	Agricul tural
Constant	-1.137	0.223	0.656	-0.061	2.321***	-0.069	-0.153
Scotland	-0.433	-2.269***	-1.227**	-1.533***	-1.217***	0.408	-0.186
Year:							
1985	-2.369***	-2.514***	-1.453***	-1.062*	-1.901***	-2.221***	-1.267**
1991	-2.398***	-2.446***	-1.881***	-1.501***	-1.970***	-1.214*	- 1.817***
Father not employed	-0.091	0.206	0.320	-0.16	0.240	0.270	0.014
Social Class:							
Professional	1.576***	1.491***	0.855*	1.616***	0.886**	0.348	0.051
Other non-manual	0.864	1.025*	0.132	1.322**	0.215	-0.445	-0.091
Skilled manual	0.493	0.620	0.370	0.687	0.694**	0.111	-0.621
Semi-skilled manual	0.442	0.832*	0.453	0.908*	0.477	0.079	1.038*
Farmer	0.432	0.190	0.198	0.895	1.143**	0.050	3.254***
Senior Leaver	3.259***	2.388***	1.325***	1.199***	0.343	1.416***	0.635
Interaction terms:							
Senior Leaver- Scotland	-0.649	0.458	-0.354	-0.294	0.130	-1.071*	-0.371
Scotland-1985	1.822**	2.562***	1.593***	1.141*	1.620***	2.025**	0.859
Scotland-1991	3.784***	4.266***	3.738***	3.065***	3.755***	2.205***	3.266***
Log Likelihood	-5930.3						
Number of cases	*3729*						

Base Category: Irish, 1981, Employed father, Unskilled manual class, Junior Leaver.

Being from a professional background increases the odds of being in a managerial / professional occupation; however, none of the other social classes have a significant impact on allocation to this group. Staying in school until the Leaving Certificate (Ireland) or Highers (Scotland) increases the likelihood of being in a managerial / professional job; in fact, senior leavers are 26 times more likely to enter this segment than unskilled manual work. There is a clear pattern of decline in the proportion of school leavers entering managerial / professional jobs over time, with most of the decline taking place in the period 1981 to 1985. However, the interaction terms between country and year indicate that the decline has been somewhat less in Scotland than in Ireland.

The relative chances of entering a clerical job are enhanced by coming from a professional or other non-manual background. A more unexpected result is the significant impact of coming from a semi-skilled background on the log odds of being in clerical employment. Educational level has a significant effect, with senior leavers

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almost 11 times more likely to have a clerical than an unskilled job. There are clear differences between male leavers in Ireland and Scotland in their access to clerical jobs. In 1981, Irish leavers were more likely to be in clerical jobs than their Scottish counterparts. However, the pattern of change over time differs, with clerical employment declining (in relative terms) among the Irish group but some indications of an increase among the Scottish group.

A similar trend is apparent for personal services, sales and skilled manual occupations. In 1981, Scottish leavers were somewhat less likely than their Irish counterparts to be in these groups compared with unskilled employment; however, the pattern of change over time differed in the two countries, with these groups declining in the Irish situation while the decline was less (or there was an increase) among Scottish leavers. In contrast to services and sales workers, being a senior leaver does not impact on access to skilled manual occupations, perhaps because of the greater use of apprenticeship routes among this group.

In 1981, there was no significant difference between Irish and Scottish leavers in their likelihood of being in a semi-skilled as opposed to unskilled job. However, the relative size of this group declined over time in Ireland, with less decline in the Scottish context. Interestingly, being a senior leaver increases the chances of being in a semi-skilled job, but the effect is less marked in Scotland than in Ireland.

The agricultural group shows a pattern of decrease over time, with some increase in Scotland over the late 1980s. The sons of farmers are 26 times more likely to be in an agricultural job. Being from a semi-skilled background also enhances the chances of employment in this group, which most likely reflects being from an agricultural labouring or related background.

These effects can be illustrated in terms of the predicted probabilities of being in certain occupational groups. Chart 5 presents the predicted occupational allocation for males in a more "advantaged" labour market position, that is, for senior leavers from a professional background with an employed father. By 1991, Irish leavers are less likely than their Scottish counterparts to be in managerial / professional, skilled manual or clerical jobs. The trend for clerical work is particularly dramatic, given the relatively high proportion of Irish male leavers in this group in 1981. This trend is most likely related to the impact of a recruitment embargo to Civil Service positions in Ireland for most of the mid- to late 1980s. Compared to Scottish leavers, Irish leavers are more likely to be in sales, semi-skilled or unskilled manual jobs.

Chart 5
Male Senior Leavers, 1981-1991
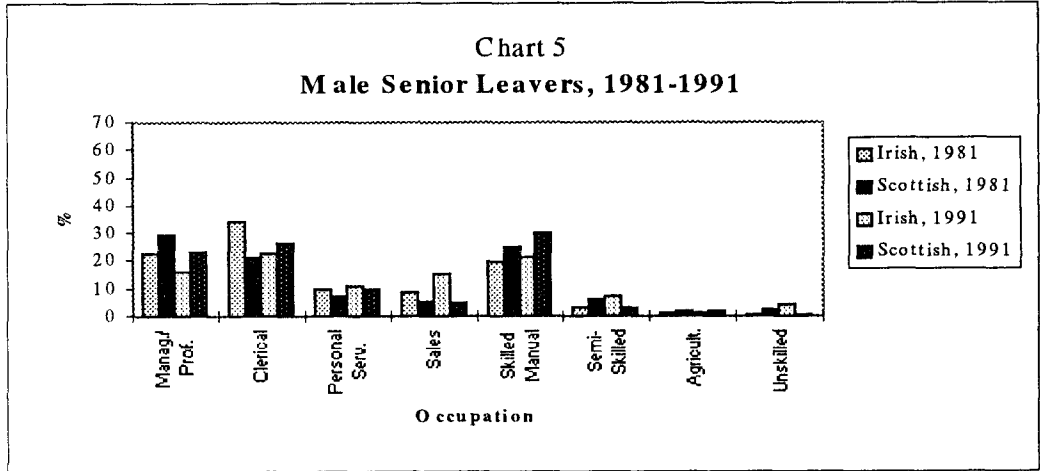
Chart 6 presents similar findings for a less "advantaged" group, junior leavers from an unskilled manual background. In both countries, this group is concentrated in skilled manual jobs. The trends for Ireland and Scotland are quite different, however, with this category declining in proportion in Ireland and increasing in Scotland. This trend is likely to be related to the expansion of YT apprenticeship places in Scotland, while the apprenticeship system in Ireland has experienced a major contraction over the 1980s[12] . Conversely, a much higher proportion of less advantaged Irish males have moved into unskilled manual jobs.

Chart 6
Male Junior Leavers 1981-1991
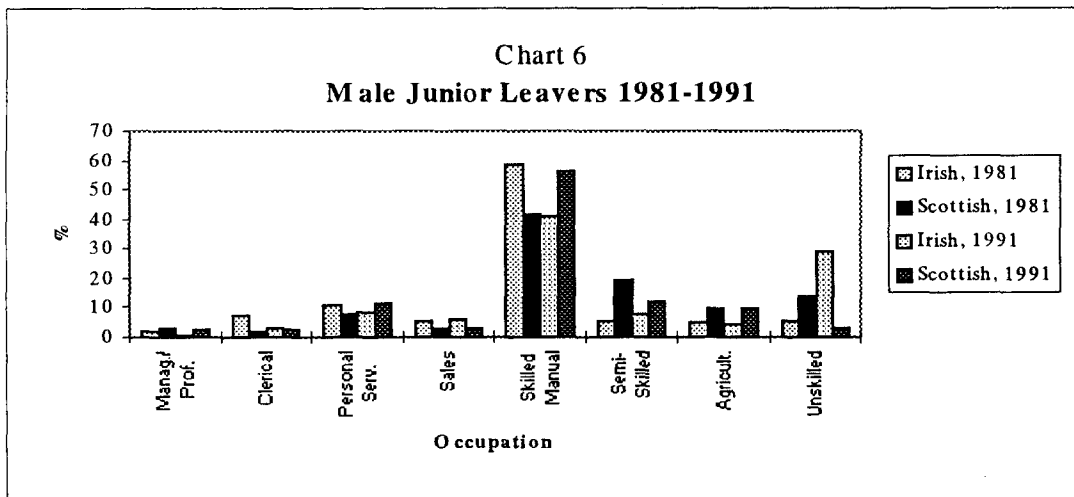
Educational level represents a very broad measure of educational attainment. Research in Ireland and Scotland has indicated that employers pay attention to grades received as well as level completed in their employment decisions (Breen et al., 1995; Shelly, 1988). Data are not available on the exam grades of Irish school leavers prior

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[12] By 1991, 87 % of Scottish males in skilled manual work were on apprenticeships compared with only one-third of their Irish counterparts.

to 1985, so a restricted model assessing the impact of a more detailed measure of educational attainment is applied to the years 1985 and 1991 for male leavers[13].

The model shows a broadly similar pattern to that using educational level (Table 10). As the time trend in Table 9 indicated, managerial / professional, clerical, personal services, sales, semi-skilled and agricultural employment declined relative to unskilled manual jobs for Irish leavers. The difference in trends over time is also apparent between 1985 and 1991. Social class background has a direct impact on access to many of the occupational groups, even controlling for the more detailed measure of educational attainment. The base category is those with no or only minimum qualifications. Having the highest level of qualifications tends to have a stronger impact on the chances of employment in non-manual or semi-skilled occupations than having first level qualifications. As with educational level, educational qualifications make no significant difference to the chances of becoming an agricultural worker, although the direction of the effects is similar to the other groups. If employers pay attention to grades in making employment allocation decisions, we would expect having higher education qualifications to have a stronger effect than having first level plus qualifications. This is the case for the managerial/ professional and clerical groups, indicating that access to these jobs is strongly influenced by performance in the final second-level examination. In general, the impact of qualifications does not differ significantly between Irish and Scottish leavers.

Table 10
Occupational Allocation of Male Leavers, 1985-1991
(Multinomial *Logit* Model contrasting with Unskilled Manual Workers: Additive Estimates)

	Managerial/ Professional	Clerical	Personal Services	Sales	Skilled Manual	Semi- skilled	Agricul tural
Constant	-4.924***	-2.454***	-1.744**	-1.587**	0.051	-3.104***	-1.703**
Scotland	0.307	0.006	0.817	-0.028	0.280	2.646***	0.437
Year 1991	0.030	0.118	-0.439	-0.418		1.032	-0.571
Father not employed	0.293	0.627	0.692*	0.145	0.326	0.735*	0.238
Social Class:							
Professional	2.505***	1.766***	1.145*	1.647**	0.805*	0.806	0.467
Other non-manual	2.312**	1.611*	0.741	1.663**	0.179	-0.154	0.073
Skilled manual	1.764*	1.059	0.821	0.849	0.776*	0.635	0.071
Semi-skilled manual	1.322	0.792	0.581	0.698	0.443	0.299	1.463*
Farmer	1.131	0.264	0.228	0.914	0.967*	0.329	3.232***
Education:							
First level quals	2.653**	0.868	1.629**	1.159*	1.009**	1.319*	0.257
First level plus quals	3.520***	1.836***	1.999***	1.769***	0.917*	1.780**	0.615
Higher education quals	3.740***	2.695***	1.698*	1.610*	0.307	1.767*	1.062
Interaction terms:							
First level -Scotland	0.143	0.384	-1.083	-0.867	0.741	-0.921	0.010
First level plus-Scotland	-0.322	0.421	-1.291	-1.270	-0.351	-1.267	-2.067*
Higher ed.quals-Scotland	1.136	1.259	-0.179	-0.058	0.369	-1.580	-0.096
Scotland-1991	2.149***	1.817**	2.242***	1.949***	2.258***	0.208	2.511***
Log Likelihood	-3203.7						
Number of cases	*1998*						

Base category: Irish, 1985, Employed father, Unskilled manual class, No/ minimum qualifications.

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[13] Models using educational attainment have a significantly better fit than those using educational level for both males and females.

8.2. Female leavers

Section 5 indicates that female leavers in both Ireland and Scotland are concentrated in a much narrower range of occupations than their male counterparts. Due to the small proportion of females in unskilled manual occupations, using this group as a base category may lead to contradictory and unstable estimates in modelling occupational allocations. As a result, skilled, semi-skilled and unskilled manual workers and agricultural workers are grouped together and used as a base category in the following analyses.

As for their male counterparts, social class background has a direct and significant impact on access to certain occupations, particularly managerial / professional and clerical jobs (Table 11). The findings for sales workers indicate that they are broadly similar to female manual and agricultural workers in their social class profile. Having a non-employed father operates in the expected direction, but is only significant for clerical workers. Educational level has a significant impact on occupational allocation. This effect is particularly strong for the managerial / professional and clerical groups, with senior leavers 70 times more likely to enter managerial / professional and 8.6 times more likely to enter clerical jobs than manual jobs. This effect is slightly weaker for Scottish leavers, with the odds "reduced" to 17 times and 4.4 times respectively.

Table 11
Occupational Allocation of Female Leavers, 1981-1991
(Multinomial *Logit* Model contrasting with Manual/ Agricultural workers: Additive Estimates)

	Managerial/ Professional	Clerical	Personal Services	Sales
Constant	-3.972***	-0.004	-0.288	-0.601*
Scotland	1.586***	0.180	0.090	0.228
Year:				
1985	-0.829**	-1.520***	0.126	-0.431
1991	-0.916**	-1.056***	0.401	-0.024
Father not employed	-0.263	-0.651***	-0.262	-0.290
Social Class:				
Professional	1.782***	0.984***	0.561*	0.342
Other non-manual	1.776***	0.960***	0.521	-0.054
Skilled manual	0.767*	0.440*	0.161	0.396
Semi-skilled manual	0.761*	0.208	-0.011	0.137
Farmer	1.199**	0.502*	0.115	0.135
Senior Leaver	4.249***	2.157***	0.435*	0.902***
Interaction terms:				
Senior Leaver- Scotland	-1.418*	-0.666**	-0.092	-0.339
Scotland-1985	-0.417	1.140***	-0.249	-0.042
Scotland-1991	-0.001	1.011***	0.335	-0.146
Log Likelihood	-5315.6			
Number of cases	*3957*			

Base Category: Irish, 1981, Employed father, Unskilled manual class, Junior leaver.

In 1981, Scottish leavers were more likely to be in managerial / professional jobs than their Irish counterparts, though there were no other significant differences between the two groups. Both managerial / professional and clerical employment show a

decline over the period 1981 to 1991, though clerical work does not appear to decline in Scotland (notice the positive interaction term for country and year(s)).

These results can be presented in terms of predicted probabilities. Chart 7 presents the predicted occupational allocation for female senior leavers from a professional background. In both countries, this group is highly concentrated in clerical occupations. However, over the 1980s this concentration declined for Irish leavers but increased for Scottish leavers. This pattern is related to the rapid decline in the recruitment of school leavers to clerical jobs in the Irish civil service and the financial sector over the 1980s. A similar decline in the proportion of Scottish females entering public administration is evident in Scotland but this was more than compensated for by the increase in recruitment to financial services; by 1991, 24 % of female school leavers in Scotland were entering this sector compared to 12 % in 1981. The trend towards movement into personal service jobs is similar in both countries, but Irish leavers show a greater tendency to move into sales jobs than their Scottish counterparts.

Chart 7
Female Senior Leavers 1981-1991
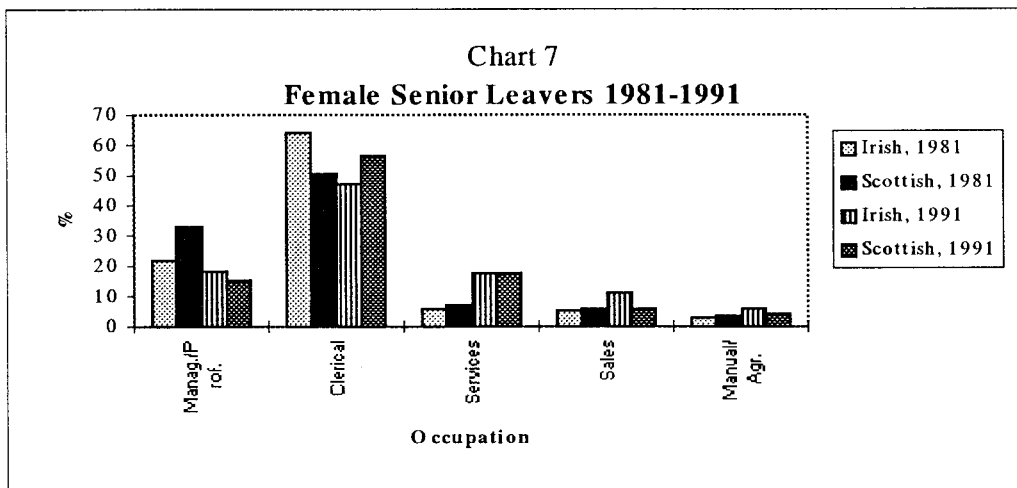
Chart 8 presents comparable results for female junior leavers from an unskilled manual background. This group is more dispersed over occupational groups than their more advantaged counterparts. The proportion in service jobs has increased among both Irish and Scottish leavers, while the proportion in clerical jobs has declined, disproportionately so in Ireland. Irish leavers have also shown a somewhat greater tendency to move into manual / agricultural jobs than their Scottish counterparts.

Chart 8
Female Junior Leavers 1981-1991
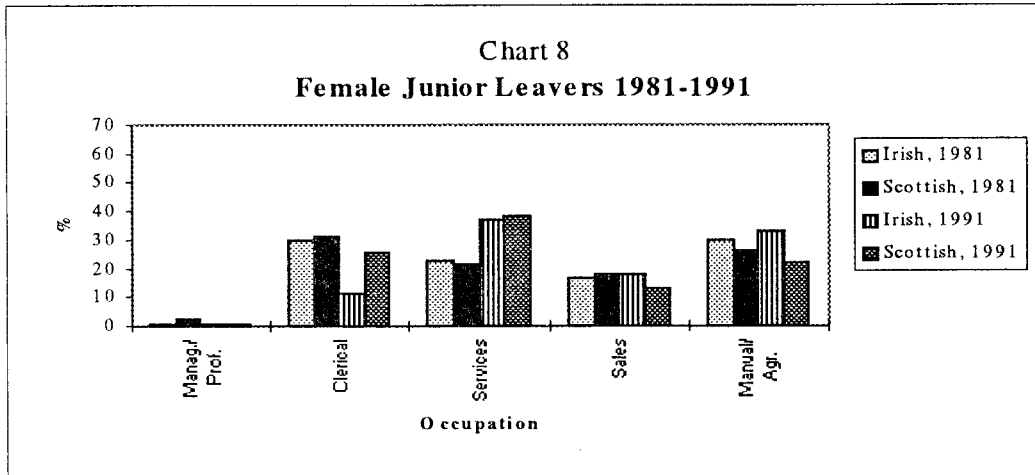
The results are broadly similar when the more detailed measure of educational attainment is used (Table 12). Having first level qualifications tends to increase the odds of being in non-manual jobs relative to manual jobs; in general, this effect is stronger for first level plus qualifications than for first level qualifications, and strongest for higher education qualifications. The exception to this pattern is personal services, where first level qualifications has a significant and negative coefficient while the other levels are non-significant. The education effect for access to managerial / professional jobs is weaker in Scotland than Ireland, while the effect for access to personal services is stronger in Scotland. The social class effects on occupational allocation are less pronounced when the detailed measure of educational attainment is used, indicating that some of these effects are mediated through grades received in examinations.

Table 12
Occupational Allocation of Female Leavers, 1985-1991
(Multinomial *Logit* Model contrasting with Manual/ Agricultural workers: Additive Estimates)

	Managerial/ Professional	Clerical	Personal Services	Sales
Constant	-14.084***	-0.761	0.361	-1.016*
Scotland	9.910***	0.201	-0.937**	-0.127
Year 1991	-0.261	0.363	0.215	0.300
Father not employed	0.258	-0.289	-0.048	0.055
Social Class:				
Professional	1.196*	0.564	0.681*	0.236
Other non-manual	1.451*	0.782*	0.744	-0.260
Skilled manual	0.493	0.271	0.413	0.232
Semi-skilled manual	-0.250	-0.124	-0.009	-0.098
Farmer	0.580	-0.120	-0.098	-0.363
Education:				
First level quals	11.449***	0.546	-0.695*	0.220
First level plus quals	12.705***	1.348***	-0.376	1.123*
Higher education quals	15.782***	2.620***	0.229	1.639**
Interaction terms:				
First level- Scotland	-9.377***	0.771	0.937*	0.596
First level plus- Scotland	-9.076***	0.843	0.778	0.302
HE quals- Scotland	-10.497***	0.393	0.498	-0.514
Scotland-1991	0.454	-0.086	0.644*	-0.042
Log Likelihood	-2834.6			
Number of cases	*2147*			

Base Category: Irish, 1985, Employed father, Unskilled manual class, No/minimum qualifications.

In summary, educational background (level and qualifications) has a significant impact on the type of job held by male and female school leavers. Education plays a broadly similar role in securing access to non-manual (particularly managerial/professional and clerical) jobs in Ireland and Scotland. However, the pattern of occupational change differs significantly between the two countries, particularly in the clerical and manual sectors. These differences hold controlling for social background and educational differences.

9. CONCLUSIONS

The 1980s represented a period of rapid change in youth labour markets in Ireland and Scotland.
- Firstly, the proportion of young people directly entering the labour market on leaving school declined significantly in both countries.
- Secondly, levels of educational attainment increased over the period, even among labour market entrants.
- Thirdly, the industrial and occupational distributions of the youth and adult workforces changed over the period.

Some similarities between Ireland and Scotland in the relationship between the differentiation of the youth labour supply and occupational differentiation are evident. Firstly, there are strong gender differences in the types of jobs held by school leavers.

Secondly, there are educational barriers to entering particular occupations, particularly managerial / professional and clerical jobs, in both Ireland and Scotland.

Thirdly, contrary to expectations, the relationship between educational level or educational attainment and type of occupation does not differ significantly between the two countries.

Differences are evident, however, between Irish and Scottish leavers in the types of jobs they enter and, more particularly, in the trend over time in occupational allocation. These occupational differences between the two groups do not reflect class or educational differences but rather are specifically related to processes of occupational structuring and restructuring within the Irish and Scottish labour markets. This highlights the necessity to take account of differences in national contexts (production systems, labour market structures, and economic conditions) in assessing cross-national differences in occupational outcomes. The role of institutional factors in shaping the type of jobs available to young people should also be recognised (see Ashton, 1993).

Firstly, the State has an important role as an employer and any reduction in recruitment to civil service (or other public sector) jobs can disproportionately affect labour market entrants (as in the Irish case).

Secondly, institutional support for apprenticeship schemes can help to create and maintain specific entry routes for young people into craft occupations (as in the

Scottish case). A consideration of these factors would further cross-national analyses of the structuring of youth labour markets.

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APPENDIX
Variables in the Irish-Scottish Data Set

Variable	*Ireland*	*Scotland*
(1) Country 1. Ireland 2. Scotland		
(2) Year of survey 1981, 1983, 1985, 1987, 1989, 1991	As specified	As specified
(3) Gender 1. Male 2. Female		
(4) Stage left school 1. Junior 2. Senior	1. Left during or at end of junior cycle 2. Left at end of senior cycle	1. Left at end of year 4 or winter of year 5 2. Left at end of year 5 or 6
(5) Educational attainment 1. No/ minimum quals 2. First level quals 3. First level plus quals 4. Higher Education quals	1. No qualifications; or, 5+ Ds in junior cycle exam 2. >1 "honour" in junior cycle exam; or "passed" junior cycle exam and took VPT (Vocational Preparation and Training Programme)course; or sat Leaving Cert and failed 3. Pass level at Leaving Cert 4. 2 or more "honours" in Leaving Cert	1. No "O" grades at A-C or "S" grades, 1-3 2. 1+ "O"/"S" grades at A-C/1-3, no Highers 3. 1-2 Highers 4. 3+ Highers
(6) Destination at survey 1. Full-time Higher Education 2. Full-time Further Education 3. Full-time Job, including Employed Apprentices 4. Scheme, excl. Employed Apprentices 5. Unemployed 6. Other	1. University; RTC (Regional techn. college); other third level 2. "2.5" (vocational) level courses 3. Full-time job, or employed apprentice 4. State training/ employment scheme 5. First-time job seeker; or unemployed having lost job 6. Part-time job; home duties; ill/ disabled	1. Full-time education at recognised higher education institution 2. Full-time education at any other institution 3. Full-time job, or employed apprentice 4. Youth training scheme or YOP (excl. employed apprentices) 5. Unemployed 6. Part-time job; home duties; ill, etc.
(7) Apprentice/ YT Trainee employed 0. No 1. Yes	0. Other LM positions 1. Employed apprentice	0. Other LM positions 1. Employed apprentice (incl. YT apprentice)

(8) **Apprentice/ YT Trainee** 0. No 1. Employed Apprentice 2. Work-based YT Trainee	0. Other LM positions 1. Employed apprentice	0. Other LM positions 1. Employed apprentice 2. Work-based YT trainee
(9) **Industry** 1. Agriculture 2. Manufacturing 3. Construction 4. Distribution 5. Transport 6. Finance 7. Public administration 8. Professional services 9. Personal services 10. Other services 11. Other	Based on regrouping of Irish Census of Population industry classification. Excludes "industry not stated".	Based on regrouping of Census of Population industry classification.
(10) **Current occupation** 1. Managers/ Administrative 2. Professional 3. Clerical 4. Personal Service 5. Sales 6. Skilled manual 7. Semi-skilled manual 8. Unskilled manual 9. Agricultural	Based on regrouping of Irish Census of Population occupational classification (see below).	Based on regrouping of Scottish Standard Occupational Classification (see below).
(11) **Father's social class** 1. Higher Professional 2. Lower Professional 3. Routine/Other Non-Manual 4. Skilled Manual 5. Semi-skilled Manual 6. Unskilled Manual 7. Farmers	Based on regrouping of Irish Census of Population occupational classification (see below).	Modified from Census of Population social class categories (see below).
(12) **Respondent's social class**	As above	
(13) **Father's employment status** 1. Working 2. Not working		
(14) **Weighting variable**	As recorded	As recorded

Occupational Group

The categories are based on an adapted version of the SOC classification. Group 1 (Managers) includes business associate professionals and buyers as these groups could not be distinguished within the Irish classification. Group 2 (Professional) includes SOC groups 2 and 3 along with nursery nurses and play-group leaders. There are some problems distinguishing "professional" and "associate professional" in the Irish classification, and, in terms of cell sizes, these groups would probably be amalgamated anyway. Group 3 (Clerical) is equivalent to SOC 4 but includes customs officers. Group 4 (Personal Service) is equivalent to SOC 6 but adds service-related occupations from SOC 9 to bring it closer to the Irish classification. Group 5 (Sales) is equivalent to SOC 7 but adds in shelf fillers.

The SOC distinction between "craft" and "operative" occupations caused considerable problems in matching to Irish equivalents. For this reason, the distinction between "skilled", "semi-skilled" and "unskilled" manual occupations seemed to make more sense. This distinction was derived by using the social class classifications that SOC codes were assigned too. While this is not ideal, it is probably the most straightforward approach to use.

Social Class Categories

Social class 1 is equivalent to SOC class I, except for the inclusion of librarians, archivists, writers, and information officers, to make it compatible with the Irish classification. Social class 2 is equivalent to SOC class II except for the inclusion of building contractors and army officers. Army personnel do not seem to be allocated a social class position in the Scottish classification, so they are included under the same heading as their Irish counterparts. Social class 3 non-manual workers is equivalent to SOC class IIINM, except for the inclusion of telephone operators. Social classes 4 to 6 are equivalent to SOC classes IIIM (manual workers), IV and V respectively, except for the inclusion of non-officer army personnel in social class 5. In the Irish classification, farmers are allocated to social classes on the basis of size of farm. Given that such information is not available in the Scottish context, the best solution seems to be the creation of a separate group of farmers, even though this may obscure differences among Irish farmers.

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A COMPARISON OF FRENCH AND DUTCH
LABOUR MARKET SURVEYS
IN HIGHER AGRICULTURAL EDUCATION

Michèle Gimbrère
Hans Rutjes

Abstract

This paper describes a first attempt to compare Dutch and French surveys on graduates of Higher Agricultural Education. In France, in 1987 and 1991 Céreq carried out surveys on graduates of "écoles d'ingénieurs"; in The Netherlands, STOAS (Department for Studies on Education and Labour) carried out surveys on graduates of "Agrarische Hogescholen" in 1987 and 1991. These surveys were used to detect any similarity in the way surveys were carried out, in the variables and in the position of the French and Dutch graduates.

One important difference in the organisation of the surveys is that the Dutch surveys are part of a longitudinal research project: every three years a large group of graduates is followed and individual careers can be reconstructed. Another difference is that Dutch surveys are not only focused on economical issues but on evaluation of the study and the institute as well.

Despite these differences, both surveys had many questions in common and a comparison between Dutch and French engineers could be made in several aspects. Unemployment rate, wages, sectors of the labour market, further education and other variables were measured in a similar way. Problems arose in the comparison of jobs. Due to differences in classification, both level and type of job could not be compared. French graduates are less working than the Dutch are. A larger percentage is unemployed or studying. When working, their position is more similar: same sectors of the labour market, same percentage in temporary jobs, etc. Although more widely spread, wages in France seem a bit lower. The comparison of French and Dutch results proved to be possible and gave insight in a few indicators on the agricultural graduates in the first years following graduation.

Résumé

Le marché du travail des ingénieurs agronomes : une comparaison France/Pays Bas

Cet article compare les enquêtes françaises et néerlandaises concernant l'entrée dans la vie active des ingénieurs agronomes. Nous avons pris en compte les enquêtes Céreq de 1987 et 1991 et STOAS de 1987 et 1992. Nous mettons en évidence les similitudes dans la conduite des enquêtes, dans les variables prises en compte et dans la situation des ingénieurs des deux pays. Une des différences majeures est que l'enquête néerlandaise fait partie d'un protocole de recherche longitudinal, ce qui permet de reconstituer les carrières sur une durée de quinze ans après la fin des études. En outre, l'enquête néerlandaise est plus centrée sur l'évaluation des études.

Néanmoins, les deux enquêtes sont très semblables et permettent de comparer la situation des ingénieurs français et néerlandais. Le taux de chômage, le salaire, les secteur d'activités, la poursuite d'études sont mesurés de la même façon. La classification des groupes professionnels est plus problématique car les classifications françaises et néerlandaises diffèrent grandement. Les ingénieurs agronomes français sont moins souvent actifs que les ingénieurs néerlandais et sont plus fréquemment en poursuite d'études ou au service militaire. Chez les actifs occupés, les différences sont moindres : les ingénieurs agronomes travaillent dans les mêmes secteurs et leurs conditions de travail sont assez semblables. Cette démarche montre la comparabilité des enquêtes dans les deux pays et nous fournit quelques indicateurs sur la situation professionnelle des ingénieurs agronomes.

1. INTRODUCTION

Dutch agricultural education has a relatively long tradition of surveys on school leavers and transitions in youth. The first survey (among graduates from the agricultural university) was held in 1972 and since then, many surveys followed for all types and levels of agricultural education. So many data about the labour market situation are available and Dutch researchers were very curious to know whether there are comparable data to be found in other European countries.

Informal inquiries among the members of the Network on Transition in Youth learned that Céreq (Centre d'études et de recherches sur les qualifications) carried out surveys on graduates of higher education. In the surveys they had reached a sufficient number of agricultural graduates of the "écoles d'ingénieurs" to make a comparison with Dutch data possible.

In April 1996 the authors visited Céreq to examine the data of the Céreq-surveys. The Céreq data seemed very useful for a first comparison with the Dutch data of Higher Agricultural Education and this paper presents the results of the first stage of this comparison.

This comparison has three perspectives:
- how similar are the Dutch and French surveys,
- is it possible to compare the data from the Dutch and French surveys,
- if data are comparable, what are similarities and differences between Dutch and French agricultural engineers?

The second section of this paper outlines in short the Dutch and French educational system. The third section describes the way the graduate surveys for higher agricultural education in both countries are set up and carried out. The fourth section spotlights the first results of the comparison of data. In the last section conclusions are drawn about differences between the surveys, about the comparability of data and about the situation of French and Dutch agricultural alumni.

2. FRENCH AND DUTCH AGRICULTURAL EDUCATIONAL SYSTEMS

The Céreq data are gathered among alumni of all types of higher education in France, including the leavers from the " école des ingénieurs agricole". The Dutch surveys were held among graduates from the "Agrarische Hogescholen" (HBO), Institutes for Higher Vocational Education, that are more professionally oriented than the Agricultural University.

In order to answer the question if both types of education can be compared, we outline both types of higher education in figure1.

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Figure 1
Higher (agricultural) education in France and the Netherlands
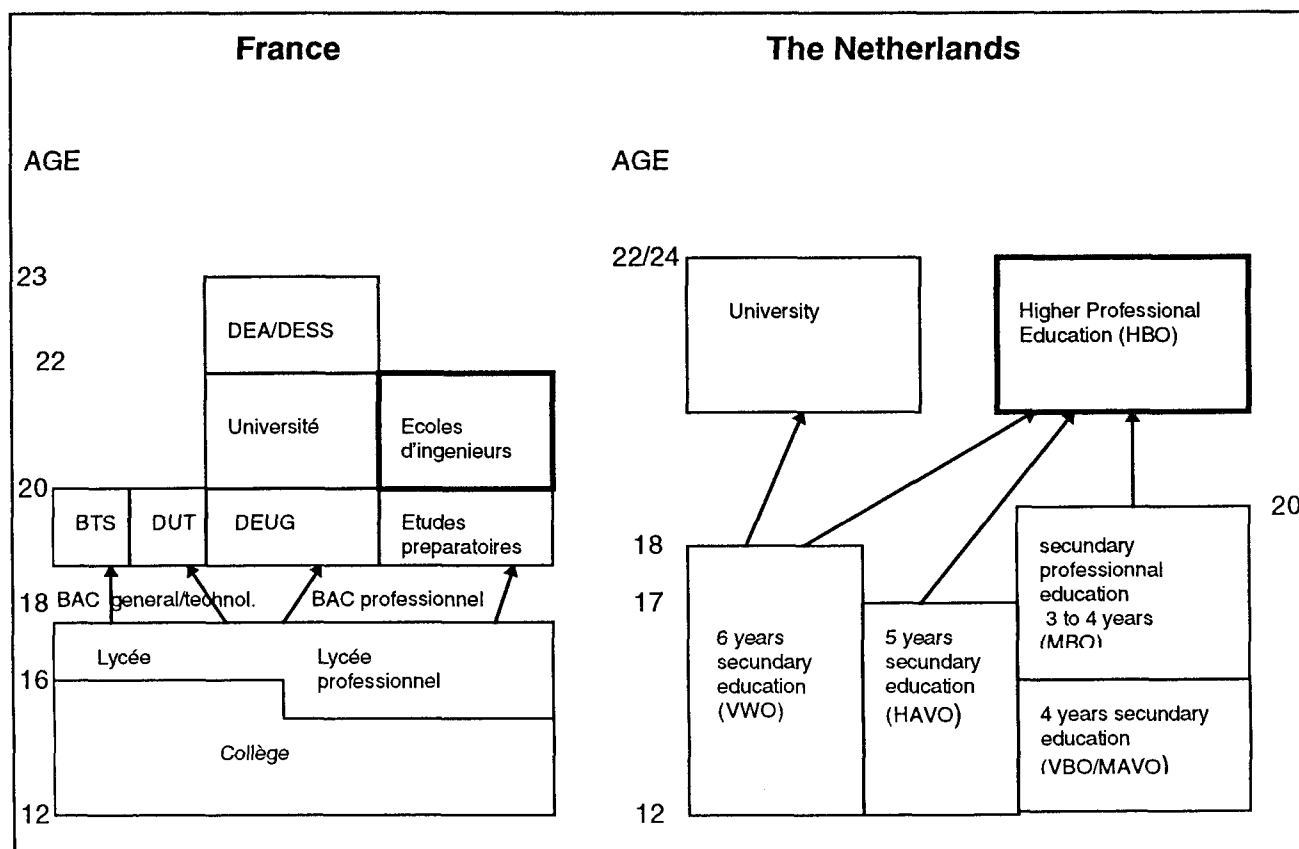
abbr.: BTS = brevet de technicien supérieur, DUT = diplôme universitaire de technologie,
DEUG = diplôme d'études universitaires général,
DEA = diplôme d'études approfondies, DESS = diplôme d'études supérieures spécialisées
HBO = Hoger Beroepsonderwijs, MBO = Middelbaar Beroepsonderwijs,
VBO = Voorbereidend Beroepsonderwijs, MAVO = Middelbaar Algemeen Vormend Onderwijs

In the French system, the "écoles d'ingénieurs" represent generally a level as high as, or even higher than university. When reading his reports and in discussions with Martinelli from Céreq (Epiphane and Martinelli, 1993), we concluded that, in spite of the high level of the "écoles d'ingénieurs" in general, the agricultural studies are considered as the lowest category and therefore might be seen as comparable to the Dutch type of higher agricultural education.

3. DUTCH AND FRENCH ALUMNI SURVEYS

3.1. Dutch alumni surveys

In Dutch agricultural education there are two types of alumni surveys: a monitor and a career survey.
The monitor survey consists of a questionnaire sent to all graduates (or a large sample, depending on the number) one and a half year following graduation. It is carried out annually.

The career survey is a questionnaire sent to a large sample of graduates between two and fifteen years after graduation. It is carried out every three or four years and each time we try to reach the same sample as good as possible. That enables us to follow personal graduate careers over a longer period of time.

The monitor is useful for a quick view of the labour market and over the years it reveals important trends in the graduate labour market position. The Monitor is carried out for all types of higher vocational education in the Netherlands and makes comparisons with others sectors of HBO possible. The career survey is only carried out for graduates of agricultural education. It provides more information on evaluation of the curriculum. For example on tasks, activities, qualifications in different jobs and careers and the impression of alumni on the role of the institute.

Both surveys have most questions in common. They are about current activities (work, study), job (such as type of job, company, permanent or temporary appointment), post initial training or courses, international relations or experience and personal information (age, sex, marital status). In the career survey there are extra questions on evaluation of education, in the monitor on unemployment.

Both surveys are reported in the same way. There is one final report for the total investigation and there are separate reports for each educational institute, which contain the figures for their own graduates compared with the population as a whole.

The surveys are paid for by the Ministry of Agriculture and by the educational institutes and carried out by the Department for studies on Education and Labour of STOAS.

3.2. The French surveys

The Céreq alumni surveys are concerned with alumni from nearly all universities, institutes and courses in higher education. The surveys were held in 1988, 1991 and 1994.

A large sample of alumni (app. 100.000) receives a questionnaire three years after graduation (1991). The questionnaire focuses on the first years of professional life of higher education graduates. The questions are concerned with current activities (work, study), job (such as type of job, company, term of employment), new studies or courses and personal information (age, sex, military service, marital status). In general, the French questionnaires include less questions in relation with the institute left and the curriculum. They focus more on a overall level in Labour Market and career related questions, whilst the Dutch questionnaires explicitly also pay attention to questions related with the educational institute the respondent left. Furthermore in the French survey, it is not possible to follow alumni careers over a longer period of time.

Reports are made for the total investigation and on special parts of the population (e.g. graduates from engineering schools, from universities). Separate reports for each educational institute are not available.

The surveys are paid by the Ministries of Education, Agriculture and Labour Affairs.

4. RESULTS

4.1. Details about the surveys and variables

The French surveys were held in 1987 and 1991 (both in March) among graduates from, respectively, 1984 and 1988. In 1987 there were 547 respondents; in 1991, 524 respondents. The Dutch surveys were held in 1987 and 1992 (September) among graduates from the preceding fifteen years. To make results comparable, we selected from the Dutch survey the graduates from 1984 in the 1987 survey (516 respondents) and the graduates from 1989 in the 1992 survey (758 respondents). We used the 1989 graduates instead of the graduates of 1988 in order to have an equal period of time spent on the labour market, compared with the French graduates.
So all findings, French and Dutch, describe engineers who graduated three years before the survey moment.
The French and Dutch surveys have many variables in common. Both questionnaires ask for personal information, study information and information on present and former jobs. The most important difference is that the Dutch surveys pay more attention to the curriculum, aspects related to the educational institute the respondent left, the study and the relationship between education and work. In the appendix, we summarised the French and Dutch questionnaires.
In this comparison, we restricted ourselves to 18 variables which can be divided over the following three categories:

- Personal information: sex, age, marital status, children,

- Study information: type of study, graduation year, preceding and following studies,

- Labour market information: situation at survey moment, number of jobs, present and first job, market sector, salary, working time, organisation size, management, status of the job.

The variables had to be recoded in order to make a comparison possible. Fortunately, most variables were easily recoded. One of the most difficult ones to recode was the profession or job of the graduates. The Dutch agricultural surveys used a special classification based on the major activity in the job (e.g. production, research, teaching) and not related to the level of the job or the market sector. The French classification of jobs is based on three aspects: major activity, status (e.g. civil servant, self-employed) and level of the job. With the help of Daniel Martinelli from Céreq we tried to classify the French professions in the Dutch agricultural classification (which is not related to the Dutch standard job classification).
The next subsection shows the results of our comparison.

4.2. Results

4.2.1. Differences in population

In describing the French and the Dutch population of agricultural graduates, represented in the surveys, a few important differences were found.

Both countries had shown a rise in female graduates by 10 % between the two surveys, but in France this meant a rise from 29 % to 39 %, in The Netherlands from 15 % to 25 %. French engineers graduated at the same age as the Dutch did, their mean age was 23.18 years (standard deviation in France 1.09 year, in the Netherlands 1.79 year). At the survey moment, 37 % of the French and 50 % of the Dutch graduates were married. In both countries female graduates were more (or earlier) married than male were (France 45 vs. 33 %, Netherlands 62 vs. 46 %). Ten per cent of the French graduates and 6 % of the Dutch graduates had one or more children; in France there was no difference between the sexes, in Holland 7 % of the men and 3 % of the women had children.

The graduates were from different studies as shown in table 1.

Table 1
Type of study per country

	France		**Netherlands**	
	N	**%**	**N**	**%**
agriculture	756	71	709	55
horticulture forestry/land, water	104	10	124	10
management	46	4	236	18
food technology	152	14	178	14
environm. study	5	0	35	3
Total	1 063	100%	1 282	100%

In France, more graduates chose for further studies e.g. university (32 % vs. 17 % in The Netherlands). In reaction to new opportunities in short university courses (two year programmes) for higher agricultural graduates, in The Netherlands this percentage rose from 9 % in 1987 to 23 % in 1992.

In the Dutch surveys, not only regular continued education (e.g. university) was covered but also all types of Labour Market related courses and training followed by the graduates. In view of an "education permanente", all kinds of further training might contribute to a better fulfilment of the job and possible steps in a career. This type of further training could not be compared.

It was not possible to compare the type of education before entering higher agricultural education.

In France, all students had a *baccalaureat* diploma, most of them BAC C (mathematics/physics) or BAC D (natural sciences).

In The Netherlands, 47 % entered HAE after 5-year secondary school (HAVO), 27 % after 6-year secondary school (VWO) and 24 % after secondary professional agricultural school (MAO).

All these differences in the research population (sex, age, study, etc.) could influence the results shown in the next tables and therefore must be kept in consideration.

4.2.2. Situation on labour market

Table 2 shows the labour market situation. One of the most striking differences in the situation on the labour market is that after three years of graduation, 74 % of the French graduates and 90 % of the Dutch graduates were working. In France more

graduates were studying, in military service or unemployed and searching for a job. Unemployment rate in France was twice the Dutch rate.

The differences between the sexes in each country were relatively small (except of course the percentage in military service). Similarly the situations on the two survey moments did not differ largely. Most striking was the rise in the Dutch percentage of studying graduates from 3 % in 1987 to 6 % in 1992.

Table 2
Labour market situation per country

	France		**Netherlands**	
	N	**%**	**N**	**%**
work	785	74	1 113	90
study	99	9	59	5
military service	81	8	11	1
unemployment / searching	75	7	38	3
not searching	17	2	10	1
Total	1 057	100%	1 231	100%

The French surveys showed a larger percentage of graduates who never had a job (9 %) than the Dutch surveys (3 %). In the three year period following graduation, most graduates who did actually enter the labour market, had one or two jobs (varying in the four surveys from 75 to 81 %). But in both countries a tendency of an increasing number of jobs in the same period of time is visible: in 1987, 43 % of the French and 48 % of the Dutch graduates had two or more jobs, in 1991/92 these percentages had increased to 53 % in France and 61 % in The Netherlands. This increasing mobility illustrates the growing "flexibility" of the market.

4.2.3. Labour market sectors and jobs

Comparing the sectors of the labour market where graduates landed, it was obvious that the differences between the Dutch and the French situation were small (table 3).

Table 3
Sector of the labour market per country

	France		**Netherlands**	
	N	**%**	**N**	**%**
primary production	116	13	161	15
agro/food industry and trade	131	15	309	28
rest industry/trade	135	15	50	5
services	283	32	285	26
education/research	109	12	86	8
government	113	13	203	19
Total	887	100%	1 094	100%

In The Netherlands, the percentage in the agro and food industry was larger than in France but that can be caused by our classification (in The Netherlands we classify factories for crop protection, warehouses, agricultural machinery ea. in the "agro-industry" and not in, for instance chemical or metal industry). More remarkable were the differences in tendencies in time in both countries. Between 1987 and 1991/92, the importance of the primary production was decreasing in France and stable in The Netherlands. The government sector and the educational and research sector were developing in the opposite direction: decline in The Netherlands versus growth in France. Growth in the Netherlands was found in the services sector where France showed stability.

Differences in labour market sector between sexes were similar in France and the Netherlands: women worked more in the governmental sector and in education and research and less in the primary production or the industry.

Table 4 shows the size of the organisation where graduates were working. In general, French engineers worked in larger organisations than the Dutch did.

Table 4
Size of organisation

organisation size	France		Netherlands	
	N	%	N	%
1-9 employees	128	15	229	21
10-49 employees	181	21	306	27
50-499 employees	316	36	422	38
>500 employees	245	28	160	14
Total	870	100%	1 117	100%

4.2.4. Type of job

Due to the problems in recoding the French jobs, we were very reluctant to compare both populations at this aspect.
Table 5 shows the results of our attempt.

Table 5
Type of job per country

	France		Netherlands	
	N	**%**	**N**	**%**
production	33	3	136	12
teaching	100	9	43	4
advise/extension	16	2	43	16
research	27	3	91	8
technicians	284	27	146	13
commercial	351	33	148	13
financial	7	1	60	5
technological/quality	10	1	73	7
inform/autom	8	1	28	3
administration	65	6	17	2
rest	162	15	187	17
Total	**1 063**	**100%**	**1 105**	**100%**

Problems arose in the descriptions of production, technical, administration and advise/extension jobs. Most jobs of the Dutch graduates, working in the primary sector and in the production in the food industry, were categorised as production jobs. The French called these jobs "ingénieur cadre techniques" and most of them were classified as technical jobs. The jobs of civil servants in France were more likely to be classified as administration jobs while their classification in The Netherlands depended on their main activity, which might be advise or technical work. One of the most important job types for Dutch graduates was in advise, consultancy or extension (advising farmers on breeding methods, crop protection, finances ea.). This job could not be found in or reconstructed from the French classification. This comparison showed us that a more thorough study of Dutch and French job classifications is needed to reach an useful comparison of jobs.

The newer Dutch surveys (starting from 1993) are not using the agricultural classification but the Dutch standard job classification. Maybe this classification is a better ground for comparison.

4.2.5. Other aspects of jobs and situation

Although a full comparison of jobs did not seem possible, there were many other aspects of jobs that could be compared. We had information about salary, working time, management in jobs, etc.

Most graduate jobs were permanent, about 15 % had a temporary appointment. We saw an increase in temporary jobs over the years (from 5 to 26 % in France and 14 to 17 % in The Netherlands). The same phenomenon is visible in part time jobs. In 1987 3 % of the French jobs and 6 % of the Dutch jobs were part time ones, in 1991/92 the percentage was 7 in France and 18 in The Netherlands. Surprisingly, in The Netherlands more men than women worked part time (13 vs. 5 %).

On the whole, Dutch engineers had a better income than their French colleagues but the French were slightly better represented in the upper classes. Figure 2 shows incomes of French and Dutch graduates in 1987 and 1992.

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Figure 2

Income of French and Dutch graduates in 1987 and 1991/1992
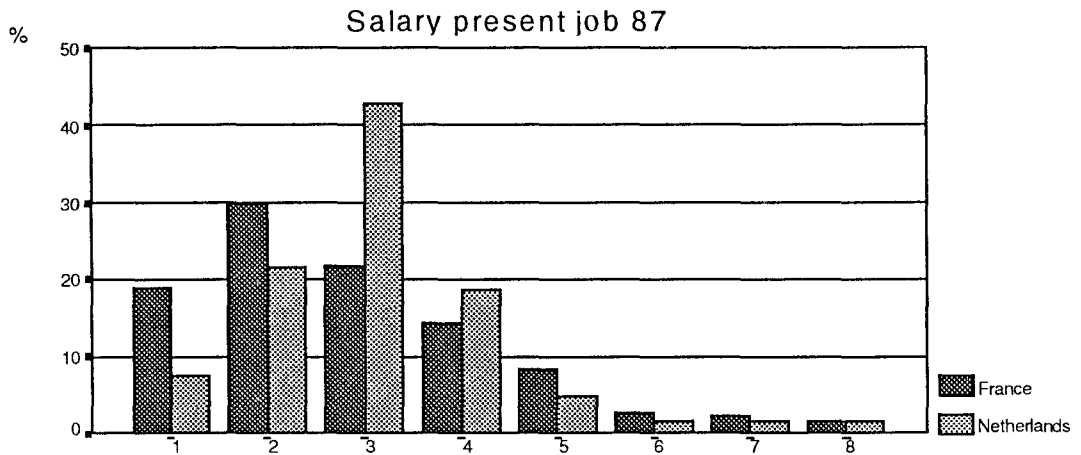
Salary present job 87

Salary dutch gld:
1: <2300   3: 2801-3300   5: 3801-4300   7: 4801-5300
2: 2301-2800   4: 3301-3800   6: 4301-4800   8: >5300

salary present job 91/92
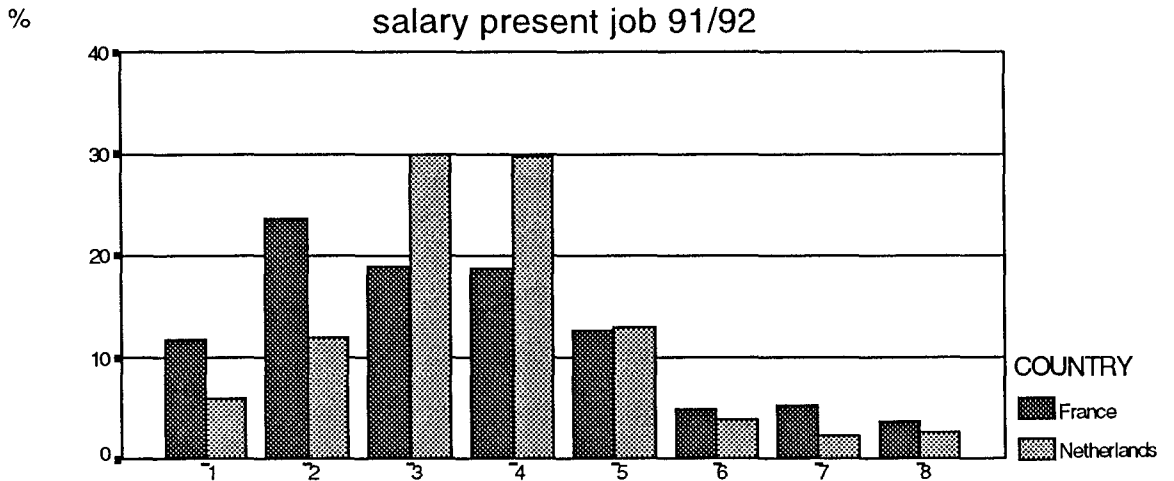
Salary dutch gld:
1: <2300   3: 2801-3300   5: 3801-4300   7: 4801-5300
2: 2301-2800   4: 3301-3800   6: 4301-4800   8: >5300

In both countries, male graduates were better paid. Sixteen per cent of the men in France and 10 % of the men in the Netherlands earned more than 4 300 guilders per month versus 11 % of the women in France and 5 % of the women in the Netherlands.

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The last aspect of our comparison is the percentage of graduates that was in charge of management of other people. In the Netherlands 35 % of the graduates were managing other people, in France 37 %. In both countries more male than female graduates were managing (France 41 % vs. 32 %, The Netherlands 37 % vs. 26 %).

5. CONCLUSIONS

Although time lacked for a very thorough comparison of the French and Dutch ways of surveying the agricultural graduates, it was an interesting experience to make a first attempt in that direction. It leads up to the following conclusions:

Differences in the way of surveying and in the surveys

The French and Dutch surveys differ in a few major aspects. First, Dutch surveys have a more longitudinal character, graduates are followed for fifteen years and individual careers can be reconstructed. Although possible, there are not many publications on these longitudinal data yet but they are foreseen in 1997.
Agricultural graduate research in the Netherlands is paid by the Ministry of Agriculture and by the institutes ("Hogescholen"). Of course the Hogescholen are, more than the Ministry, interested in comparison of their own results with the population as a whole and in evaluation of their studies by graduates. So Dutch findings are reported for each "Hogeschool" individually and for the population as a whole and Dutch questionnaires contain more questions about relations between study and work and evaluation of the curriculum and aspects related to the educational institute the respondent left. The Dutch surveys focus on both qualitative and quantitative information while the French surveys emphasise economical issues: unemployment, income, number of jobs.

Possibilities to compare

When finishing this paper, Teunis (1996) published a proposal for development of international labour market indicators to be used in international comparisons. On the transition from school to work he proposes indicators for 7 issues: structure of employment (sectors and occupations of school leavers), unemployment rate, rate of over and undereducation, type of employment (self employed, employed), atypical work (temporary, part time), wages and participation in further training. As shown in the results in section 4, most indicators can be found in both surveys and are comparable. Most difficult proved to be the comparison of jobs or occupations. One issue not mentioned in section 4 are hidden discrepancies (over and undereducation). In Dutch surveys, they are measured by asking for the most suitable level of education for the job, seen by the eyes of the graduate him/herself and by the employers' eyes. In the French surveys, there is not such a question but perhaps this can be reconstructed out of the occupational classes. The issue of further education is discussed in section 4.

On the whole, we were surprised that a lot of variables were easily compared.

Similarities and differences

Although most findings were described in section 4 we would like to summarise a few similarities and differences between Dutch and French agricultural engineers. In France fewer graduates looked for a job or found a job: study and unemployment rates were higher than in the Netherlands. When working, French and Dutch engineers were more similar: they worked in the same sectors of the market and a comparable percentage was temporarily appointed. Dutch engineers worked more in part time jobs and (nevertheless) earned better wages. In both countries male engineers earned more and were more in charge of other people than female engineers.

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APPENDIX

Questions in Dutch and French alumni surveys

FRENCH	DUTCH
Personal information sex date of birth marital status yes/no + date kids yes/no + number + age nationality military service yes/no + start/end date place parents profession + place	Personal information sex date (year) of birth* marital status yes/no + working partner? kids yes/no + age youngest nationality* parents** level of education

Study
baccalaureat   type, year, place
school/institute
type of study
diploma yes/no + date
new studies
   type, institute, grant, diploma
	Study
	preceding education type
	school/institute
	type of study
	duration start/end date
	new studies
	   type, reasons, diploma

Situation after graduation situation in every month after graduation (study,work,unemployment)	Situation after graduation situation on survey moment (monitor: situation every month after graduation; career survey in 1995: situation every quarter of a year in last three years)
Job(s) (all) start/end date name of job code/classification type of work full or part time temporary/permanent employed/self employed income (first and survey moment) employer enterprise/person/governm employer main activity number of persons employed by employer in charge of persons? place of work situation after job new job/study/unempl	Job(s) (87: last en first, 92: last) start last job name of job code/classification type of work full or part time temporary/permanent employed/self employed income (survey moment) employer type employer main activity number of persons employed by employer in charge of persons? place of work way of acquiring last job appreciation of job aspects (salary, career perspectives, work load, responsibility)
	Study job relationship importance of fields of study in job importance of activities in job importance of social skills in job appreciation for way school prepared for these fields of study, activities and skills level and type of study needed for job training/courses followed in job interest in further training/ courses
	Unemployment unemployed on survey moment yes/no if yes reason(s) ways of looking for a job

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ABSTRACTS - RÉSUMÉS

Rodolfo Gutiérrez - Holm-Detlev Köhler

New Systems of Production and Initial Work Careers

The industrial world is undergoing fundamental changes in work organisation and human resources practices that in social sciences are reflected in debates about "lean production" and "flexible organisation". These changes are believed to have a strong influence upon traditional patterns of labour market entries and professional trajectories.

This paper tries to analyse the influence of labour markets and corporate structures upon the configuration of such trajectories; the way NPS (New Production Systems) and HRM (Human Resources Management) are thought to modify traditional configurations of professional trajectories and how, in fact, these phenomena have been identified in four firms which operate in the context of an old industrial region.

Nouveaux systèmes de production et trajectoires professionnelles en début de carrière

Dans nos sociétés industrielles, l'organisation du travail et les pratiques en matière de ressources humaines connaissent des changements importants dont on trouve trace dans les débats en sciences sociales sur "la production robotisée" et "l'organisation flexible du travail". On considère généralement que ces changements ont une influence forte sur les modes traditionnels d'accès au marché du travail et sur les trajectoires professionnelles.

Cet article cherche à analyser l'influence des marchés du travail et des structures de l'entreprise sur la forme que prennent ces trajectoires. On analysera la façon dont les NPS (Nouveaux systèmes de production) et le HRM (Gestion des ressources humaines) sont censés modifier les configurations traditionnelles des trajectoires professionnelles et comment on peut empiriquement identifier ces phénomènes dans quatre entreprises d'une région industrielle traditionnelle.

Gerdur G. Oskarsdottir - Matti Vesa Volanen - Gudbjorg Andrea Jonsdottir

Educational Attainment in Finland and Iceland - A Comparative Study

This paper compares the educational attainment of a one year cohort in Finland and Iceland and analyses completion and dropout rates in terms of parents' education, gender, educational achievement (grades in school) and country (different systems). The aim of the study was to investigate whether different school systems and access policies are likely to lead to different graduation patterns. Two classical theories of education are considered, functionalism and conflict theory. These theories that define the relation of school and society in very different ways are applied as a framework to think about schooling as preparation for the world of work. The results show that

there is no difference in graduation rates from academic programs in Finnish and Icelandic upper secondary schools, despite different access policies, restricted access in Finland and open access in Iceland. Dropout, on the other hand is much more common in Iceland. Parents' education was found to be a good predictor of likelihood of dropout in Iceland and of educational choice (vocational vs. academic) in Finland. Thus, it is argued that these findings support the view of conflict theory claiming that the function of schools is to maintain the existing social structure. Different access policies and different systems seem to be unlikely to change that picture.

Les niveaux éducatifs en Finlande et en Islande : une étude comparative

Cet article étudie les niveaux éducatifs d'une cohorte d'un an en Finlande et en Islande et analyse les taux de réussite et d'abandon en cours d'études en fonction des niveaux d'instruction des parents, du sexe, des performances scolaires (notes à l'école) et du pays considéré. Nous avons cherché à mettre en évidence si des systèmes scolaires et des conditions d'accès différents conduisaient ou non à des systèmes de certification différents. En matière éducative, deux théories s'affrontent : une théorie fonctionnaliste et une théorie du conflit. Ces deux théories qui définissent la relation entre l'école et la société sont utilisées ici comme un cadre théorique permettant de penser l'école comme une préparation au monde du travail. L'enquête montre que les taux de réussite aux examens à la fin de l'enseignement secondaire sont très voisins en Finlande et en Islande en dépit de politiques d'admission opposées : la Finlande adopte une attitude sélective à l'entrée, tandis que l'Islande pratique le libre accès. En revanche, l'abandon en cours d'études est une pratique courante en Islande. Le niveau éducatif des parents semble être une bonne variable explicative de l'abandon en cours d'études en Islande et être fréquemment lié en Finlande à l'orientation professionnelle (enseignement professionnel plutôt qu'enseignement général). Ces résultats semblent étayer la thèse du conflit qui affirme que le rôle de l'école est de contribuer au maintien du système social existant. Des politiques d'admission différentes ne semblent pas susceptibles de remettre ce fait en question.

Michel S.M. Van Smoorenburg - Rolf K.W. Van der Velden

The Training of School Leavers: Complementarity or Substitution?

In a recent article by Groot (1993) the question of complementarity or substitutability between different forms of human capital is raised. If initial education and industrial training are substitutes, overeducated workers will participate less in additional training than workers who are correctly educated. It could explain the persistence of overeducation and implies that the social wastage of overeducation will be less. On the other hand, if initial education and industrial training are complements, existing differences in human capital will only increase by industrial training, implying the risk for some workers "missing the boat". Supplementary to Groot we not only look at the impact of over- and undereducation (level) but also to non-matching fields of studies and to the "narrowness" of types of education. A sample of labour market entrants was used, so we did not have to cope with the disturbing influence of other forms of human capital: life and labour market experience. The paper gives evidence in support of the substitutability between initial education and industrial training.

La formation des jeunes sortant du système scolaire

Dans un article récent, Groot (1993) soulève la question de la complémentarité ou de la substituabilité entre différentes formes de capital humain. Si la formation initiale et la formation industrielle sont substituables l'une à l'autre, les salariés surqualifiés participeront moins à la formation continue que les salariés qui ont reçu le niveau de formation "convenable". Ceci permettrait de rendre compte de la persistance du phénomène de surqualification et tendrait à prouver que le gaspillage social lié à la surqualification serait moindre qu'on ne le dit généralement. Inversement, si la formation initiale et la formation industrielle sont complémentaires, les différences existantes en termes de capital humain ne feront que s'aggraver avec la formation industrielle, et il y aura des laissés pour compte. Prolongeant les travaux de Groot, nous ne considérons pas seulement l'impact de la sous ou sur-qualification en terme de niveau scolaire, mais aussi la non adéquation des types d'études poursuivies et le caractère plus ou moins spécialisé des formations reçues. Notre étude repose sur un échantillon de nouveaux entrants sur le marché du travail afin que d'autres formes de capital humain, telles que l'expérience sur le marché du travail, n'entrent pas en ligne de compte. Notre contribution apporte des éléments en faveur de la substituabilité entre formation initiale et formation industrielle.

John Bynner

Skills as Human Capital in Youth Transitions - A LISREL Model of Origins and Effects

Using empirical data from the 1970 British Cohort Study (BCS), based on a sample of 17 000 people born in a single week in April 1970 (BCS70), this paper addresses the following issue: what are the basic elements of human capital that assist the process of transition to employment and how do young people acquire them? Two conflicting views are presented and tested: Human Capital Theory and Social Exclusion Theory. The paper examines the role of both type of skills in occupational preparation: the basic skills and the more directly employment based work-related skills. The results underline the importance of the primary school years as the key period for the acquisition of the basic skills and the role of basic skills as key factors in employment. This strengthens the position of social exclusion theorists who question the centrality of work-related skills in the policies and the practices prevailing in preventing youth unemployment. However, successful functioning within employment and progress via promotion to higher levels of work, are likely to be affected crucially by the possession of these work-related skills.

La compétence comme facteur du capital humain et l'insertion professionnelle des jeunes

En s'appuyant sur les données de l'enquête longitudinale sur les jeunes britanniques nés en avril 1970 (BCS70), cet article pose la question suivante : quelles sont les composantes du capital humain nécessaires à l'insertion professionnelle des jeunes et quel en est le mode d'acquisition ? Deux grandes théories sont renvoyées dos à dos : la théorie du capital humain et la théorie de l'exclusion sociale. L'article examine le

rôle respectif des connaissances générales et des compétences professionnelles au sens le plus étroit du terme. L'importance des premières années scolaires dans l'acquisition ultérieure de la formation générale et le rôle prépondérant de cette dernière pour l'accès à l'emploi sont mis en évidence. Ces résultats viennent appuyer la thèse de l'exclusion sociale qui tend à minorer l'importance des compétences proprement professionnelles dans l'accès à l'emploi. En revanche, le rôle de ces dernières dans l'aptitude à réussir dans l'emploi et à obtenir ultérieurement des promotions apparaît clairement.

Didier Balsan - Saïd Hanchane - Patrick Werquin

Mobilité professionnelle initiale : éducation ou expérience sur le marché du travail - Un modèle *Probit* à effet aléatoire

Plusieurs modèles *Probit* à effet aléatoire sont estimés sur des données de panel décrivant chaque année, pendant six ans (de 1989 à 1995), la position des jeunes sur le marché du travail. L'accent est mis sur le rôle comparé des caractéristiques connues dès la fin de la formation initiale et de celles acquises sur le marché du travail. Ces deux ensembles de variables ont des effets significatifs sur la probabilité de détention d'un emploi aux différentes interrogations. L'article milite donc en faveur d'un réexamen du rôle de la formation (niveau, diplôme, spécialité) pour expliquer la transition professionnelle, rôle qu'elle avait souvent perdu au profit de l'expérience acquise en situation d'emploi dans des travaux récents. La part de l'hétérogénéité individuelle non observée demeure forte malgré l'utilisation de données d'enquête détaillées (Céreq).

Youth Transitions: Initial Human Capital or Labour Market History
A Variance Component Model

Several models Variance Component Models are estimated on panel data. They are *Probit* models where we estimate the probability of having a job (a permanent one - CDI- or a fixed term contract -CDD- one). We know the monthly position on the labour market (employed, unemployed, youth scheme, out of the labour force, etc.) of almost 2 500 early school leavers (pre Bac.) who have exited school or a training centre for apprentices in June 1989. We follow them up to 1995. The paper focuses on the role of the characteristics of the young people as they are known in June 1989 (initial human capital) compared to the experience obtained from their history on the labour market (previous job, youth programme, etc.). Both the sets of variables are significant.
Our results shed some light on the determinants of successful transitions to employment. They also would invalidate previous results that give all the importance to history on the labour market. Using longitudinal data (retrospective panel data surveys) and including unobserved heterogeneity help to better explain initial professional mobility.

Joanne Lamb - Hans Rutjes - Karen Brannen - Karel Pagrach

Quality Frames for a European Survey - A New Approach to Modelling Transitions in Youth?

In 1994 the ESF working group on the construction of a cross-national dataset on transitions from secondary education gave a report on the conceptual and practical issues arising from trying to construct such a dataset from existing sources. The paper identified the impact of different institutional structures and legal frameworks on both the experiences of the survey respondents and the methodology used to collect data on those experiences.

This paper will describe how the work of that group has been taken forward in a European Fourth Framework Programme research project, *IDARESA* (Integrated Documentation and Retrieval Environment for Statistical Aggregates). Furthermore, it describes how we hope to use advances in formal methods of describing statistical data to aid the further development of a conceptual framework for cross-national data in this area.

IDARESA aims to develop a statistical information system which will hold a rich set of metadata (background information) that will describe the characteristics of dataset variables. This background information is needed to enable the users of the data to interpret it correctly. The system will make use of an access mechanism which allows the user to issue his/her commands in a normal, understandable manner (natural language interface).

Central to the approach of *IDARESA* is the Quality Frame. This is a formal definition of the variables in an idealised dataset. Variables from actual datasets are mapped to this Quality Frame, and the coding transformation rigorously defined. The software will then enable users to interact with the datasets using the terminology of the Quality Frame.

School leavers surveys from Scotland and the Netherlands are being used as a test application in the project. The paper will describe how we have built on our earlier experiences to put the survey descriptions and institutional differences into the formal framework supplied by *IDARESA*, and the insights the process has given us.

"Cadres de qualité" pour une enquête européenne sur l'insertion des jeunes

En 1994 l'équipe de l'ESF qui avait élaboré une base de données comparatives sur l'insertion des jeunes a présenté un rapport sur les problèmes théoriques et pratiques posés par l'élaboration d'une base de données constituée à partir des sources existantes. Cet article vise à identifier l'impact des structures institutionnelles et du cadre législatif sur les expériences des répondants et la méthodologie employée dans la collecte de ces données.

L'article décrit la progression des travaux et leur contribution à un projet de recherche du quatrième programme cadre européen. Nous proposons une application des méthodes formelles les plus récentes permettant de décrire des données statistiques afin de construire un cadre conceptuel adapté à des univers nationaux différents.

Le projet *IDARESA* (Integrated Documentation and Retrieval Environment for Statistical Aggregates = Système documentaire intégré et cadre de restitution pour données statistiques agrégées) a pour but de développer un système d'informations statistiques contenant un vaste ensemble de méta-données permettant de décrire les

caractéristiques des variables d'une série donnée. Un thesaurus permettra aux utilisateurs d'accéder aisément à ces meta-données.

Le "Quality Frame" est un outil central dans cette approche ; il consiste à produire une définition formelle des variables dans ce que pourrait être une base de données "idéale". Les variables réelles sont projetées sur le "Quality Frame" et des règles de transformations rigoureuses sont énoncées. Le programme permet ensuite à l'utilisateur de naviguer entre les séries réelles et les séries virtuelles.

Des enquêtes de sortie du système scolaire en Écosse et aux Pays Bas ont servi de base d'application à cette recherche. Cet article montre comment l'expérience accumulée précédemment nous a servi pour documenter les enquêtes et prendre en compte les différences institutionnelles dans le cadre formel fourni par *IDARESA*. Il débouche sur les perspectives offertes par une telle démarche.

Nathalie Moncel

Profils sectoriels de gestion de la main-d'œuvre : quelles conséquences pour l'emploi des jeunes ?

Cet article présente les résultats d'une recherche centrée sur les pratiques de gestion de la main-d'œuvre jeune dans les secteurs d'activité en France en 1992. L'hypothèse principale de cette recherche est que les modes d'emploi des jeunes sont fortement dépendants des différents types d'organisation des marchés du travail. Les résultats mettent en évidence la partition du système d'emploi et les liens entre modes de gestion sectoriels et emploi des jeunes. Ces derniers sont analysés à l'aide des distinctions entre marché interne, marché externe et marché professionnel. Finalement, si au regard d'études précédentes, les configurations sectorielles de l'emploi des jeunes apparaissent stables, l'interprétation des logiques de recours à la main-d'œuvre jeune reste problématique tant en ce qui concerne la pertinence du niveau sectoriel qu'au regard des cadres théoriques disponibles.

Youth Labour Force Management and Economic Sector

This paper presents a research based on the sectorial practices of youth employment in France in 1992. The main hypothesis is that youth employment patterns are strongly linked with the different kinds of labour market organization. The results point out the segmentation of the labour market according to the sectorial workforce management practices. The implications for youth employment are described in terms of sectorial typologies and are analysed with the help of the distinction between internal market, external market and professional market. As a result, several issues appear for the school-to-work transition analysis concerning the factors and the levels of segmentation.

José Rose

L'accès à l'emploi des jeunes : niveaux d'analyse, approches en termes de marché et construction sociale de l'emploi

Cet article propose une réflexion sur les conditions actuelles d'accès à l'emploi des jeunes et la façon dont elles sont analysées et interprétées, ceci à partir d'une recherche contractuelle qui vient de s'achever.
Ce travail contribue à plusieurs débats, d'ordre à la fois méthodologique et théorique et qui concernent l'interprétation du processus d'accès à l'emploi des jeunes et notamment le rôle structurant des entreprises. Bien que la recherche ne porte que sur le cas français, il est possible d'en tirer quelques conclusions sur les rapports entre analyses théoriques et empiriques de l'insertion professionnelle des jeunes susceptibles d'être transposées à l'autres pays.

Young People Access to Employment: Labour Market Theory vs. Social Construction of Employment

This paper analyses the current characteristics of youth access to the labor market and the way they are usually presented and interpreted. Under a contract of the Education Department, this study involved three parts: the first one is presented in Moncel's paper. My paper provides a summary of the whole study entitled "The use of the youth Labor force by firms and industrial sectors; general features and presentation of a case study : blue-collar and white collars employment in three sectors of the services. Our paper underlines the structuring role played by firms regarding youth employment. Though the data involve only French case studies, our theoretical and empirical views concerning youth transition to employment can also be applied to other foreign countries.

Jean-Michel Espinasse - Jean-François Giret

Trajectoires d'insertion et modélisation des parcours : quelques remarques

La première partie de ce travail met en perspective les travaux théoriques et empiriques qui ont servi de référence à l'explication de l'insertion des jeunes. Sociologues et économistes ont élaboré une série de concepts qui montrent la richesse et les limites des enquêtes longitudinales. Devenue opératoire par ses extensions, la théorie de la quête (seconde partie) a permis des modélisations de plus en perfectionnées et des avancées significatives dans le domaine de la compréhension du processus d'insertion sans toutefois "lever le voile" sur certains problèmes. La troisième partie de ce travail essaie de proposer quelques pistes de recherche dans le but d'améliorer l'efficacité des enquêtes longitudinales et plus généralement la compréhension des problèmes d'insertion.

School to Work Transition: Some Remarks about the Different Approachs to Modelling Young Adults Paths

This article surveys the vast literature on the school to work transition and the methods used to explain this transition as a process. The first section considers theoretical analysis in the study of transitions in youth. It examines the different concepts used by economists, sociologists and psychologists in the longitudinal analysis. The second section compares theoretical and empirical studies about transitions in youth in relation with job search theory. The third section ends with a discussion of some propositions in order to improve the quality of longitudinal data.

Catherine Béduwé - Jean-Michel Espinasse

Certificates, Skills and Job Markets in Europe
A Summary Report of a Comparative Study Conducted in Germany, Spain, France, Italy, The Netherlands, United Kingdom

The growth of the educational level is generalised in Europe. It essentially takes the form of a lengthening in the duration of youth training which propagates itself in the whole active population through a demographic process. Each generation is "better educated" (formed longer) than the previous one.
Through a CEDEFOP's support, a comparison of these propagation mechanisms has been realised in six countries of the European Union.
The main results concern the evolution of competence structures by profession. In an astonishingly convergent manner for the six countries, a model has put forwards the strong importance of a training offer effect in explaining the internal transformations that have occurred up to now in occupations.
The training development undertaken in the different countries has largely modify the relative scarcity of the different workforce categories. One can affirm that, globally, firms of these countries have not benefited in a large extent from this modification to adjust the competence structure of their professions.

Diplômes, compétence et marchés du travail en Europe
Rapport de synthèse d'une étude comparative menée en Allemagne,
en Espagne, en France, en Italie, aux Pays Bas et au Royaume Uni

L'élévation du niveau d'éducation est générale en Europe. Elle se traduit essentiellement par un allongement de la durée de formation des jeunes et se propage dans l'ensemble de la population active par un processus démographique, chaque génération étant " mieux formée " (formée plus longtemps) que la précédente.
Grâce au soutien du CEDEFOP, une comparaison de ces mécanismes de propagation a été réalisée dans six pays de l'Union européenne.
Les principaux résultats concernent *l'évolution* des structures de compétence par profession. Une modélisation a mis en avant, de façon étonnamment convergente pour les six pays, l'importance déterminante d'un effet d'offre de formation pour expliquer les transformations internes survenues dans les professions.
L'effort de formation a fortement modifié les raretés relatives des différentes catégories de main-d'oeuvre. Globalement, les entreprises des pays concernés ont

relativement peu utilisé cette modification pour réaménager les structures de compétences de leurs professions.

Walter Müller - Yossi Shavit

The Institutional Embeddedness of the Stratification Process
A Comparative Study of Qualifications and Occupations in Thirteen Countries

Processes of stratification are imbedded in institutional contexts. We develop several hypotheses regarding the specific ways in which the characteristics of educational systems affect the relationship between educational credentials and occupational outcomes for individuals. The hypotheses are tested in a comparative analysis of results reported by the thirteen national studies included in the project on Educational Stratification and Occupational Destinations (Shavit and Müller, 1997). The results show that the magnitude of the association between qualifications and occupational outcomes are enhanced by the stratification and standardisation of national educational systems, as well as by the prevalence of specific vocational education. We also find that the association is attenuated by the rate of tertiary education in the population. In addition, in countries where vocational education tends to be occupationally specific, it enhances the odds of employment in skilled rather than in unskilled occupational classes and seems to lower the odds of unemployment. Gender similarities and differences are also explored and discussed.

Contexte institutionnel des processus de stratification : comparaison des qualifications et de l'insertion professionnelle dans treize pays

Les processus de stratification s'inscrivent dans un contexte institutionnel. Nous développons plusieurs hypothèses concernant la façon dont les systèmes éducatifs agissent sur la relation entre les diplômes et leurs conséquences sur les destinées professionnelles. Ces différentes hypothèses sont testées grâce aux données fournies par une enquête comparatives portant sur treize pays, conduite dans le cadre du programme "Stratifications éducatives et destinées professionnelles" (Shavit et Müller, 1997). Ces résultats montrent que l'association entre formation professionnelle et performance professionnelle est renforcée par la stratification et la standardisation des systèmes éducatifs nationaux. De plus, dans les pays où la formation professionnelle prépare étroitement à un métier spécifique, elle augmente la probabilité d'occuper un emploi qualifié et réduit les risques de chômage. Les différences et similitudes entre hommes et femmes sont également examinées.

Hans Heijke - Mieke Koeslag - Rolf van der Velden

Skills, Occupational Domains and Wages

First of all, the paper investigates to what extent the importance of skills for a job is determined by the occupational domain the graduates are working in. In the second place, the effects of skill deficiencies on the earnings are investigated. The data we have used stem from a Dutch survey into the labour market position of graduates of

higher vocational education. The results of our analyses show that both generic and occupation specific skills are considered to be important in the occupational domains in which the school-leavers are working. Furthermore, the paper shows that the graduates are faced with deficiencies with regard to these skills. However, only deficiencies with respect to occupation specific skills have a small effect on the earnings. It may be concluded that earnings in jobs of graduates, shortly after their entry in the labour market, are determined largely by the subject and level of their acquired education.

Qualifications, secteurs professionnels et salaire

Cet article examine d'abord dans quelle mesure certaines compétences sont déterminées par les domaines professionnels dans lesquels les diplômés sont employés. Deuxièmement, il analyse l'impact des défauts de qualification sur le niveau de salaire. On montre la double importance des qualifications générales et de celles proprement professionnelles dans les domaines professionnels où les diplômés travaillent. Les résultats indiquent enfin que les diplômés souffrent de défauts de qualification. Toutefois, seuls ceux qui directement liés à l'activité considérée ont un impact négatif sur les niveaux de rémunération.

Holle Grünert - Burkart Lutz

Un double processus de déstabilisation dans les sociétés post-socialistes
Le cas de l'Allemagne de l'Est
Quelques réflexions en préparation d'un programme de recherche

L'article analyse les bouleversements qu'a connu l'Allemagne de l'Est, passant d'un système scolaire étroitement planifié dans lequel chaque adolescent était orienté vers des filières scolaires et professionnelles extrêmement strictes, à un système plus souple, laissant aux individus plus de liberté mais aussi plus d'incertitude quant à leur avenir professionnel. Désormais, les jeunes peuvent décider de s'orienter vers une formation professionnelle ou une formation générale et ils sont libres de choisir le métier qu'ils entendent exercer plus tard, compte tenu de leurs ambitions et de leurs compétences.
- Les perspectives professionnelles sont soumises à des variations fortes selon les niveaux de formation initiale et les diplômes obtenus.
- Personne n'a une vision claire de quelles sont les formations qui préparent à un avenir professionnel enviable.
Les jeunes et leurs parents sont donc confrontés à des choix pour lesquels ils ne disposent pas de l'information adéquate.
- Face à ce sentiment d'insécurité générale, la tendance la plus commune semble être de tenter de rester dans le système éducatif aussi longtemps que possible et d'opter pour les formations générales au détriment des formations professionnelles.
Quant aux employeurs, ils réagissent à cet état de fait en évitant le plus possible de recruter du personnel nouveau et en se cantonnant à des pratiques de gestion des ressources humaines hybrides, voire contradictoires.
L'article distingue trois sous-ensembles sur le marché du travail, correspondant à des niveaux d'insécurité différents. Il propose trois volets pour une nouvelle recherche :

1. Une analyse précise des attitudes des jeunes et des employeurs concernant la formation et l'emploi.
2. Une analyse des interactions dynamiques entre les stratégies des jeunes et celles des employeurs.
3. Une analyse comparée avec d'autres pays post-socialistes.

The School to Work Transition in Eastern Germany after Reunification: Some Proposals for a Research Project

This paper analyses the shift experienced by East Germany, from a strictly planned schooling system (where teenagers were assigned very precise schooling and occupational tracks) to a more flexible system, involving more freedom but also more insecurity, including joblessness: nowadays, young people can freely choose between general and vocational education and prepare themselves for whatever occupation they may want, considering their ambition and competence.

- Occupational prospects may vary a great deal, according to initial training and degrees passed.
- No one has a clear view of which vocational tracks or degrees lead towards rewarding jobs. Therefore, both young people and their parents have to make decisions under conditions of imperfect information.
- Remaining in school as long as possible and choosing basic education as opposed to vocational education seems to be a consequence of this high general feeling of insecurity.

Potential employers react to this by avoiding to hire new employees and sticking to ambiguous human relations practices. Three different segments in the labor-market can be identified, corresponding to different levels of job insecurity. The paper includes a proposal for a new research project:

1. A minute analysis of young people's and employer's attitudes concerning employment and training issues.
2. An analysis of dynamic interactions between young people's and employer's strategy.
3. A comparison with other post-socialists countries.

Torild Hammer

History Dependance in Youth Unemployment

This article presents a theoretical model to explain recurrent periods of unemployment from youth to adulthood. The data are based on a longitudinal study of a representative sample of nearly 2 000 young people in Norway who participated in a survey in 1985 and were followed up again in 1987, 1989 and 1993. The Central Bureau of statistics in Norway has been responsible for the collection of data.

The results showed that the previous spells of unemployment were the strongest predictor of later periods of unemployment. Recurrent periods of unemployment can be explained by structural, cultural and individual factors. Structural features of the labour market such as branch, temporary work contracts, position in the labour market and seasonal work were important factors. Affiliation to drug-using subcultures as well as mental health and motivation for work also had an impact on

the risk of successive periods of unemployment. However, multivariate analysis showed that structural variables regarding employment branch and working conditions were more important than individual problems. The data have been analysed for each period of follow up, applying logistic regression. The full model has been tested by Poisson regression, using a multiplicative model.

Chômage passé et chômage en cours chez les jeunes

L'article présente un modèle explicatif des épisodes de chômage récurrent chez certains adultes depuis leur adolescence. Les données proviennent d'une enquête longitudinale portant sur un échantillon représentatif de près de 2 000 jeunes norvégiens qui ont été interrogés une première fois en 1985 avec réinterrogation en 1987, 1989 et 1993 par le Bureau statistique national.

Les résultats indiquent que les épisodes de chômage antérieur sont un prédicteur majeur des périodes ultérieures de chômage pour un individu donné. On peut expliquer ces périodes de chômage récurrentes par un ensemble de facteurs structurels, culturels et individuels. Les caractéristiques structurelles du marché du travail comme la branche d'activité, le contrat de travail à durée déterminée, la position sur le marché du travail et le recours au travail saisonnier sont autant de facteurs dont l'importance est mise en évidence. L'appartenance à des milieux soumis à la drogue, la santé mentale et le rapport à l'emploi sont aussi des facteurs qui ont un impact sur le risque de connaître des épisodes répétés de chômage. Néanmoins, l'analyse multivariée montre que les facteurs structurels tels que la branche et les conditions de travail sont prépondérants par rapports aux facteurs individuels. Pour chaque vague d'enquête, on a procédé à une régression logistique. Le modèle a été testé en utilisant une régression de Poisson.

Félicité des Nétumières - Patrick Werquin

Inactives ou chômeuses : différences dans la relation à l'emploi

Dans le cadre du débat sur l'activité des femmes, une question souvent abordée par les sociologues est celle de leur rapport à l'emploi qui serait déterminant dans le fait, d'une part, de se déclarer chômeuses plutôt qu'inactives et, d'autre part, de trouver rapidement un emploi. D'un autre côté, la théorie économique peut être vue comme décrivant les femmes chômeuses moins employables que les femmes inactives parce que transmettant alors des signaux de moindre productivité aux employeurs potentiels.

Un modèle de durée univarié multi-épisodes pour expliquer la durée d'accès à l'emploi ordinaire (CDD ou CDI) est estimé pour tester le rôle respectif de l'inactivité passée et du chômage passé : si le chômage semble correspondre à des accès à l'emploi plus probables, surtout lorsque le statut obtenu est un contrat à durée indéterminée.

L'étude fournit aussi quelques éléments d'appréciation de la situation des femmes en situation d'accès à l'emploi à la fin de la décennie 80.

Women Unemployed or Out the Labour Force

As far as women participation is concerned, one of the sociological issue is their work commitment which would be determinant to explain their tendency to declare themselves as unemployed as well as to explain their ability to find a job. On the other hand, economic theory describes women as less willing to find a job if they are unemployed rather than out of the labour force: unemployed women would be seen as less efficient by employers.

A multiple spells univariate duration model is estimated to explain the duration between two jobs for young women entering the labour market in France in 1986. These women are followed up to 1989 and we know their position on the labour market month by month during almost four years.

The aim of the paper is two test the role of unemployment vs. inactivity in the past labour market history of women. Doing that, we test the relevance of sociology vs. Economy to explain young women employment. We find that unemployment significantly leads more often to a job than inactivity. This is particularly true when this job is a permanent position (unlimited duration job). The paper also give some stylised facts about the situation of young women, in France, at the end of the eighties.

Paul Ryan

Methods and Findings in School to Work Evaluation Research in th US

The paper reviews contemporary US evaluation research in the school to work area, with an eye its implications for European practice, in both policy and evaluation. The controversy over evaluation methods is discussed, emphasising the informational limits of all techniques, the limitations of "single issue" evaluations, the need to draw upon multiple sources of evidence, and the gulf which exists between best practice in publicly sponsored research in the US and in the European Community. Evaluations findings for labour market programmes, the vocationalisation of curricula in secondary education and apprenticeship are reviewed. Significant benefits - whether to participants or to the wider economy - have not been found for most of the programmes adopted in the US for youth, both in school and out of school. The possibility that more ambitious programmes - involving in particular apprenticeship or the integration of academic and vocational studies in secondary schooling - might lead to more impressive results remains unresolved.

Évaluation de l'insertion des jeunes aux États-Unis : méthodes et résultats

L'article propose un tour d'horizon des travaux de recherche sur l'évalutaion dans le domaine de l'insertion professionnelle aux États-Unis. Les implications pour l'Europe en terme d'evaluation et de décision sont aussi abordées. La controverse sur les différentes méthodes d'évaluation est discutée en mettant en avant les limites de toutes ces techniques en termes d'informations disponibles, les restrictions liées à une évaluation d'un seul point de vue, la necessité de faire appel à des sources de résultats multiples et le fossé qui existe entre les pratiques de la recherche publique aux États-Unis et dans l'Union européenne. Les résultats des évaluations sur les mesures en

faveur de l'emploi, de la professionnalisation des programmes dans l'enseignecmnt secondaire et de l'apprentissage sont abordés. Aucun bénéfice significatif - que ce soit pour les participants aux divers programmes ou pour l'ensemble de l'Économie - n'est trouvé pour la plupart des actions adoptées aux États-Unis en faveur des jeunes, qu'ils soient encore à l'école ou non. Une question demeure : est-ce que des programmes plus ambitieux - mettant en particulier en œuvre de l'apprentissage ou une intégration des enseignements académiques et professionnels dans le secondaire - pourraient conduire à des résultats plus nets ?

Laurent Freysson

Potential Use of the Community Labour Force Survey in the Analysis of the Young

The paper presents some empirical illustrations of the situation of the Young in the European Union. Data are drawn from the Community Labour Force Survey (LFS) which is a yearly household survey mainly covering labour market issues. However, the LFS can also provide quantitative information for the analysis of young people as it does not only cover persons in the Labour Force.
Firstly, it can be used to measure the increasing participation in education of the Young over time. Secondly, the survey can be used to examine who benefits from further studies. It appears that social background still plays a significant role in this while gender differences have tended to disappear. Thirdly, the LFS can shed some light on the analysis of the transition from school to employment itself. It seems that basically two different systems exist in the EU. In some countries, a lot of young people leave school quite early (United Kingdom) or at least leave full-time education (Germany, Netherlands, Austria and Denmark) to enter into the labour market at the age of 18 (or sometimes before). In the rest of the Union, most young people are still in initial formal education and the entry into activity is much delayed. Finally, the LFS is an appropriate tool for assessing the difficulty of entry into the labour market for young people: more unemployment, more job insecurity and more involuntary part-time jobs.

Le potentiel de l'enquête communautaire sur les forces de travail dans le cadre de l'analyse des jeunes

Le document présente quelques illustrations empiriques concernant la situation des jeunes dans l'Union européenne. Les données sont tirées de l'enquête communautaire sur les forces de travail (EFT). Il s'agit d'une enquête annuelle sur les ménages couvrant principalement les problèmes du marché du travail ; néanmoins, l'EFT permet également de fournir des informations de nature quantitative sur les jeunes en particulier, du fait qu'elle ne couvre pas uniquement les forces de travail.
Premièrement, l'enquête peut être utilisée pour mesurer la participation croissante des jeunes dans l'éducation. Elle permet également d'évaluer à qui profite le phénomène de prolongement des études ; il apparaît que le milieu social joue toujours un rôle important, alors que les différences par sexe ont tendance à disparaître. L'EFT peut aussi contribuer à mieux saisir comment se fait la transition de l'école à l'emploi dans les différents États membres. Il semble que fondamentalement deux systèmes

différents co-existent à l'intérieur de l'Union. Dans certains pays, nombre de jeunes quittent l'école à 18 ans ou parfois plus tôt (au Royaume-Uni par exemple) ou du moins quittent le système éducatif formel à plein temps (Allemagne, Pays-Bas, Autriche et Danemark) pour entrer sur le marché du travail. Dans le reste de l'Union, la plupart des jeunes sont toujours dans le système éducatif formel à ces âges et l'entrée dans la vie active est bien plus tardive. Enfin, l'EFT est un outil approprié pour mesurer les difficultés d'insertion des jeunes dans le monde du travail : plus de chômage, plus d'insécurité et plus de travail à temps partiel non choisi.

Damian F. Hannan - David Raffe - Emer Smyth

Cross National Research on School to Work Transitions
An Analytical Framework

This paper develops an analytical framework for the comparative analysis of the transition from school to work, paying particular attention to country-level factors which influence the transition process. It starts by identifying four sets of dimensions which need to be included in a conceptual framework, namely the national context, the nature of education/training systems and their relation to the labour market, the way the transition process itself is structured, and the outcomes of transition. The paper then reviews cross-national studies in the field, focusing primarily on papers presented to previous meetings of the ESF Network on Transitions in Youth. It discusses methodological problems of cross-national research, including the limited availability of comparable data (which restricts both the countries and the variables that are included in cross-national analyses), problems in defining equivalence in respect of such comparable data as are available, and the limited degrees of freedom to support empirical analysis of system-level effects. The paper develops a typology of education/training systems, based on the dimensions of stratification and standardisation, and on the strength and nature of education/labour-market links. The relative impact of different policy interventions is predicted to vary across the categories of this typology.

Comparaison internationale de l'insertion des jeunes : un cadre d'analyse

Cet article developpe un cadre théorique permettant une comparaison internationale des modes d'insertion professionnelle propres à chaque pays. Quatre facteurs principaux sont identifiés : le contexte national, la nature de chaque système éducatif et de formation, la relation entre celui-ci et le marché du travail, la façon dont est structuré le processus de transition école/travail et le résultat de cette transition. L'article se poursuit par une analyse des comparaisons internationales, et plus spécialement celles réalisées précédemment par le réseau européen sur l'insertion sociale et professionnelle des jeunes. Différents problèmes méthodologiques propres à cette recherche sont ensuite évoqués, notamment la pénurie de données internationales réellement comparables (ce qui réduit à la fois le nombre de pays et le nombre de variables que l'on peut prendre en compte, les problèmes liés à la définition des équivalences ainsi que le nombre limité de degrés de liberté permettant l'analyse empirique des effets systémiques. L'article propose enfin une typologie des systèmes éducatifs qui prend en compte les dimensions de la stratification sociale, la nature et

l'intensité des liens entre système éducatif et marché du travail et une estimation de l'impact relatif des différentes mesures de politique publique prévisible compte tenu de cette typologie.

Emer Smyth - Paula Surridge

Educational Differentiation and Occupational Allocation among School Leavers in Ireland and Scotland, 1981-1991

This paper examines trends in the occupational allocation of school leavers in Ireland and Scotland over the period 1981-1991. Ireland and Scotland provide a useful basis for comparison since education/training systems in both countries focus on the provision of general education, with a high degree of vertical differentiation and little horizontal differentiation. In spite of these similarities, previous research by the authors (Smyth and Surridge, 1995) indicates that the two countries differ significantly in patterns of school leaving and in the post-school destinations of young people.
This paper develops the previous research to examine the nature and levels of occupations entered by school leavers and the relationship between occupation entered and educational qualifications. Since the relationship between educational differentiation and labour market structuring is likely to be both cross-nationally variable and dynamic, the paper assesses change over time in this relationship, in particular over the period of recession in the early 1980s.
The paper uses data from the Irish and Scottish school leavers' surveys. Work had already been carried out on constructing a cross-national dataset and this work has been extended to add in information on the type of job, occupational group and industrial sector.

Différenciation des niveaux d'instruction et insertion professionnelle des jeunes irlandais et écossais sortis de l'enseignement secondaire entre 1981 et 1991

Cet article examine les tendances concernant l'insertion professionnelle des jeunes sortis de l'enseignement secondaire en Irlande et en Écosse entre 1981 et 1991. L'Irlande et l'Écosse constituent une base utile à une étude comparative puisque les systèmes d'éducation et de formation de ces deux pays partagent une même volonté de dispenser une formation générale avec un haut degré de différenciation verticale et peu de différenciation horizontale. En dépit de ces ressemblances, une recherche précédente (Smyth et Surridge, 1995) montre qu'il existe entre ces deux pays des différences importantes dans les conditions de sortie du système éducatif et d'insertion professionnelle.
Cet article reprend les résultats précédents et examine la nature et le niveau des professions occupées par les jeunes au premier emploi ainsi que les relations entre niveaux scolaires et insertion professionnelle. Puisque les relations entre différenciation des niveaux éducatifs et structures du marché du travail varient à la fois d'un pays à l'autre et dans le temps, l'article évalue sur une période de plusieurs années les changements qui affectent cette relation, notamment pendant la période de récession au début des années 1980.

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L'étude s'appuie sur des données d'enquêtes concernant les jeunes irlandais et écossais sortant de l'enseignement secondaire. Des travaux d'élaboration d'une base de données comparative sur l'insertion des jeunes avaient déjà été menés sur ces deux pays. Ils ont été prolongés afin de prendre en compte des informations concernant la nature des emplois, le groupe professionnel et le secteur industriel.

Michèle Gimbrère - Hans Rutjes

A Comparison of French and Dutch Labour Market Surveys in Higher Agricultural Education

This paper describes a first attempt to compare Dutch and French surveys on graduates of Higher Agricultural Education. In France, in 1987 and 1991 Céreq carried out surveys on graduates of "écoles d'ingénieurs"; in The Netherlands, STOAS (Department for Studies on Education and Labour) carried out surveys on graduates of "Agrarische Hogescholen" in 1987 and 1991. These surveys were used to detect any similarity in the way surveys were carried out, in the variables and in the position of the French and Dutch graduates.
One important difference in the organisation of the surveys is that the Dutch surveys are part of a longitudinal research project: every three years a large group of graduates is followed and individual careers can be reconstructed. Another difference is that Dutch surveys are not only focused on economical issues but on evaluation of the study and the institute as well.
Despite these differences, both surveys had many questions in common and a comparison between Dutch and French engineers could be made in several aspects. Unemployment rate, wages, sectors of the labour market, further education and other variables were measured in a similar way. Problems arose in the comparison of jobs. Due to differences in classification, both level and type of job could not be compared. French graduates are less working than the Dutch are. A larger percentage is unemployed or studying. When working, their position is more similar: same sectors of the labour market, same percentage in temporary jobs, etc. Although more widely spread, wages in France seem a bit lower. The comparison of French and Dutch results proved to be possible and gave insight in a few indicators on the agricultural graduates in the first years following graduation.

Le marché du travail des ingénieurs agronomes
Une comparaison France/Pays Bas

Cet article compare les enquêtes françaises et néerlandaises concernant l'entrée dans la vie active des ingénieurs agronomes. Nous avons pris en compte les enquêtes Céreq de 1987 et 1991 et STOAS de 1987 et 1992. Nous mettons en évidence les similitudes dans la conduite des enquêtes, dans les variables prises en compte et dans la situation des ingénieurs des deux pays. Une des différences majeures est que l'enquête néerlandaise fait partie d'un protocole de recherche longitudinal, ce qui permet de reconstituer les carrières sur une durée de quinze ans après la fin des études. En outre, l'enquête néerlandaise est plus centrée sur l'évaluation des études.
Néanmoins, les deux enquêtes sont très semblables et permettent de comparer la situation des ingénieurs français et néerlandais. Le taux de chômage, le salaire, les

secteur d'activités, la poursuite d'études sont mesurés de la même façon. La classification des groupes professionnels est plus problématique car les classifications françaises et néerlandaises diffèrent grandement. Les ingénieurs agronomes français sont moins souvent actifs que les ingénieurs néerlandais et sont plus fréquemment en poursuite d'études ou au service militaire. Chez les actifs occupés, les différences sont moindres : les ingénieurs agronomes travaillent dans les mêmes secteurs et leurs conditions de travail sont assez semblables. Cette démarche montre la comparabilité des enquêtes dans les deux pays et nous fournit quelques indicateurs sur la situation professionnelle des ingénieurs agronomes.

GLOSSARY - GLOSSAIRE

AGFI	Adjusted Goodness of Fit Index
ARE	Aide à la recherche d'emploi
AVO	Algemeen Voortgezet Onderwijs General Secondary Education
BCS	British Cohort Study
BEP	Brevet d'études professionnelles
BEPC	Brevet d'études de premier cycle
BMST	Bulletin mensuel de statistiques du travail
BT	Brevet de technicien
BTS	Brevet de technicien supérieur
CA	Contrat d'adaptation
CAP	Certificat d'aptitude professionnelle
CASMIN	Comparative Analysis of Social Mobility in Industrialised Nations
CBS	*Central Bureau of Statistics*
CDD	Contrat à durée déterminée
CDI	Contrat à durée indéterminée
CEC	*Commission of the European Communities*
CEDEFOP	*Centre européen pour le développement de la formation professionnelle*
CEP	Certificat d'études primaires
CEREQ	*Centre d'études et de recherches sur les qualifications, Marseille*
CES	*Centre for Educational Sociology, Edinburgh*
CES	Contrat emploi solidarité
CFA	Centre de formation pour apprentis
CFI	Crédit de formation individualisé

CFNT	*Centro de formación en nuevas tecnologías* *Centre For the Training in New Technologies*
CIF	Congé individuel de formation
CIPPA	Cycle d'insertion professionnelle par alternance
CLO	Contrat local d'orientation
CNAM	*Conservatoire national des arts et métiers*
CNED	*Centre national d'enseignement à distance*
CNRS	*Centre national de la recherche scientifique*
CO	Contrat d'orientation
CPC	Commission professionnelle consultative
CPI	Continuous Performance Improvement
CQ	Contrat de qualification
CQP	Certificat de qualification professionnelle
CRE	Contrat de retour à l'emploi
CREST	*Centre de recherche en économie et statistique*
CSE	Certificate of Secondary Education
CSP	Catégorie socioprofessionnelle
DARES	*Direction de l'animation, de la recherche, des études et de la statistique, Paris*
DATARCH	Data Archive at the University of Essex
DEA	Diplôme d'études approfondies
DEP	*Direction des études et de la prospective (ministère de l'Éducation)*
DESAN	Data Entry and Statistical Analyses, Amsterdam
DEUG	Diplôme d'études universitaires générales
DEVA	*Département des entrées dans la vie active (Céreq)*
DIJEN	Dispositif d'insertion des jeunes de l'Éducation nationale
DLC	Direction des lycées et collèges

DOSIS	Development of Statistical Information System
DUT	Diplôme universitaire de technologie
DUVA	Datenverabeitungs Unterstutzte Volkszahlungs Auswertung Computer Aided Population Census Evaluation
ECHP	European Community Household Panels
EGP	Erikson-Goldthorpe-Portacarrero (Class Schema)
EPVT	English Picture Vocabulary Test
ESF	*European Science Foundation, Strasbourg*
ESRI	*Economic and Social Research Institute, Dublin*
FCIL	Formation complémentaire d'initiative locale
FICYT	*Fundación para el Fomento en Asturias de la Investigación Científica Aplicada a la Tecnología* *Foundation of Scientific Research and Applicated technology, Spain*
FPC	Formation professionnelle continue
FQP	Enquête formation qualification professionnelle
GCE	General Certificate of Education
GCSE	General Certificate of Secondary Education
GED	General Educational Development
GNVQ	General National Vocational Qualification
GREE	*Groupe de recherche sur l'éducation et l'emploi, Nancy*
GRET	*Grup de Recerca Educacio i Treball, Barcelona* *Groupe de recherche sur l'éducation et le travail*
GREQAM	*Groupe de recherche en économie quantitative d'Aix-Marseille*
HAO	Hoger Agrarisch Onderwijs Higher Agricultural Education
HAVO	Hoger Algemeen Voortgezet Onderwijs Higher General Secondary Education

HBO	Hoger Beroepsonderwijs Vocational Colleges
HEO	Hoger Economisch Onderwijs Higher Commercial Education
HGZO	Hoger Gezondheidszorg Onderwijs Higher Health Care Education
HPO	Hoger Pedagogisch Onderwijs Teacher Training - Education
HRM	Human Resources Management
HTO	Hoger Technisch Onderwijs Higher Technical Education
IAA	Industrie agro-alimentaire
ICE	*Institut de Ciènces de l'Educacio, Barcelona* *Education Sciences Institute*
IDARESA	Integrated Documentation and Retrieval Environment for Statistical Aggregates
IDL	*Institut du longitudinal, Caen*
IEA	*Institut for Educational Research, Finland*
IFR	*Instituto de Fomento Regional* *Agency for Regional Development, Spain*
ILEA	Inner London Education Authority
ILM	Internal Labour Market
INEM	*Instituto Nacional de Empleo* *National Empoyment Agency, Spain*
INSEE	*Institut national de la statistique et des études économiques*
ISCED	International Standard Classification of Education

ISFOL	*Istituto per lo sviluppo della formazione professionale dei Lavoratori* *Institut pour le développement de la formation professionnelle des travailleurs*
ITD	Integrated Target Dataset
IUT	Institut universitaire de technologie
ISTAT	*Istituto di Statistica, Roma* *Italian National Institute for Statistics*
JTPA	Job Training Partnership Act
KMBO	Kort Middelbaar Beroepsonderwijs Short Senior Secondary Vocational Education
LASMAS	*Laboratoire d'analyse secondaire et de méthodes appliquées à la sociologie, Paris*
LFS	Labour Force Survey Enquête emploi
LIMDEP	Limited Dependant Variable (Statistical Package)
LIRHE	*Laboratoire interdisciplinaire de recherche sur les ressources humaines et l'emploi, Toulouse*
LISREL	Linear Structural Relations with Latent Variables (Statistical Package)
LSE	*London School of Economics and Political Sciences*
LSQ	*Laboratoire de sociologie quantitative, Paris*
MAVO	Middelbaar Algemeen Vormend Onderwijs Enseignement secondaire général inférieur
MBO	Middelbaar Beroepsonderwijs Senior Secondary Vocational Education
MEN	*Ministère de l'Éducation nationale*
MOREA	Module de repréparation aux examens par alternance
NAP	Nomenclature des activités et des produits
NCDS	National Child Development Study

NIAS	*Netherlands Institute for Advanced Study, Wassenaar*
NPS	New production System
NSI	*National Statistical Institute, Ireland*
OCDE (OECD)	*Organisation de coopération et de développement économique*
OLM	Occupational Labour Market
OLS	Ordinary Least Square
ONQ	Ouvrier non qualifié
OQ	Ouvrier qualifié
PME	Petite et moyenne entreprise
RMI	Revenu minimum d'insertion
RMS	Residual Mean Square
ROA	*Researchcentrum voor Onderwijs en Arbeidsmark, Maastricht* *Research Centre for Education and the Labour Market*
RTC	Regional Technical College
RUBS	Registratie Uitstroom en Bestemming Schoolverlater Registration of the Outflow and Destination of School Leavers
SAS	Statistical Analysis System (Statistical Package)
SBI	Standard Industrial Classification
SCL	Hopkins Symptom Checklist
SES	Section d'enseignement spécialisé
SIP	Session d'information et d'orientation
SIRENE	Système d'identification au répertoire national des entreprises et de leurs établissements
SIVP	Stage d'initiation à la vie professionnelle
SLS	School Leavers Surveys
SME	Small and Medium Enterprise

SOC	Scotish Standard Occupational Classification
SPSS	Statistical Package for Social Sciences
StaLa	Statistisches landesamt Office statistique régional, Berlin
SSRU	*Social Statistics Research Unit, London*
STOAS	*Department for Studies on Education and Labour in the Agricultural Sector (The Netherlands)*
STS	Section de technicien supérieur
SYPS	Scottish Young People Survey (prototype à YCS)
TSER	Targeted Socio-Economic Research Program
TUC	Travaux d'utilité collective
TVEI	Technical and vocational Education Initiative
UIMM	Union des industries métallurgiques et minières
VBO	Voorbereidend Beroepsonderwijs Junior Secondary Vocational Education
VPT	Vocational preparation and Training Program
WO	Wetenschappelijk onderwijs University
WRR	Wetenschappelijke raad voor het Regeringsbeleid Conseil scientifique pour la politique gouvernementale
YCS	Youth Cohort Survey
YOP	Youth Opportunity Programme (remplacé par le YTS)
YTS	Youth Training scheme (transformé en YT)
YT	Youth Training (succède au YTS)
ZSH	*Zentrum für Sozialforschung an der Martin Luther-Universität, Halle* *Centre de recherche en sciences sociales de l'université Martin-Luther*

TABLE DES MATIÈRES

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European researchers have been meeting for several years in an annual workshop on transitions from school to work issues. The workshops are organised by the Network on Transitions in Youth and, in 1996, the focus is on the links that must be shown between theory and empirical and/or statistical evidence. This document contains the papers presented at La Ciotat.

Depuis plusieurs années, un atelier annuel réunit des chercheurs de tous les pays européens sur le thème de l'insertion sociale et professionnelle des jeunes. Il est organisé par le Réseau européen sur l'insertion des jeunes et porte, en 1996, sur les liens qui doivent être mis en évidence entre les résultats empiriques et/ou statistiques et les théories permettant de les comprendre. Ce document contient les textes des articles présentés à La Ciotat.

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