



# Modernising vocational education and training

Fourth report on vocational education  
and training research in Europe:  
synthesis report





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reference centre for vocational education and training.  
We provide information on and analyses of vocational  
education and training systems, policies, research and practice.  
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## Foreword

In 2002, the Ministers for Vocational Education and Training (VET) of 31 European countries and the European Commission adopted the Copenhagen declaration. The declaration underlines the contribution of VET to achieving the Lisbon goals and sets priorities for improved cooperation on VET system reforms. Every two years, the Member States' progress in modernising VET is reviewed and priorities for reforms are refined.

The third review of the Copenhagen process was completed during the French Presidency and the Bordeaux communiqué set new directions for future developments in VET. Cedefop is active in accompanying the policy process by reviewing national developments and progress in VET and preparing comparative analyses of policies.

Informing European VET policies, which is a priority for Cedefop, means also providing the evidence-base for policy-making. It is the task of research to investigate and explain the complex relationships between education and training and the socioeconomic system. Research aims at reducing complexity and improving understanding of causes and effects; this helps to identify the means and strategies expected to be most effective and acceptable in solving a problem.

In this report, Cedefop presents an analysis of the socioeconomic context that drives VET system modernisation: the need to increase competitiveness despite demographic ageing, labour-market pressures and skill shortages, the integration of the European social model and economic policies. It underlines the specific contribution of VET to positive change. Trends in VET modernisation, such as how to increase the attractiveness of VET, the implementation of national and European qualifications frameworks, or the professionalisation of VET teachers and trainers, are also analysed from a research perspective.

I sincerely hope that this report will contribute to developing further a culture of evidence-based policy-making in VET.

Aviana Bulgarelli  
*Director of Cedefop*

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Analyses included rely greatly on the various contributions to the background report to this fourth research report by renowned researchers (see Introduction).



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# Introduction

## Aim of the reporting series on VET research

The present publication is the fourth issue in the series of reports on vocational education and training (VET) research that have been published by Cedefop since 1998 <sup>(1)</sup>. The aim of the series is to provide reviews of current socioeconomic research in fields related to VET and skill development in Europe, to discuss the results and to derive implications for policy and future research. Research reports are, therefore, a tool for evidence-based policy-making. However, they also identify challenges for future research by discussing issues and problems that have not been sufficiently researched.

This synthesis report relies on contributions from several researchers <sup>(2)</sup>. We have pooled these contributions and complemented them with additional research to document, discuss and analyse the socioeconomic context and process of modernising VET.

## Definition and role of VET and VET research

Broadly defined, VET comprises all structured activities that aim to provide people with knowledge, skills and competences necessary to perform a job or a set of jobs, whether or not they lead to a formal qualification. VET is independent of venue, age or other characteristics of participants and previous level of qualifications. VET may be job-specific or directed at a broader range of occupations. It may also include elements of general education. The major importance of VET for individuals, enterprises and society is widely acknowledged, and it is recognised as a key element of lifelong learning.

VET policies have to consider the complex relationships between education and training and the socioeconomic system. It is the task of VET research to investigate and explain these relationships and their effects. It aims at reducing complexity and improving the understanding of causes and effects, and identifying the means and strategies expected to be most effective and acceptable in solving a problem. In this sense, VET research is meant to serve and inform policy- and decision-making.

## Contents of the fourth research report

Modernising VET is the overarching theme of this fourth research report. It aims to provide and discuss the evidence-base for improved cooperation which sets priorities for reforming VET to contribute to the Lisbon process <sup>(3)</sup>.

Research and policy-making often appear disconnected. 'Evidence-based policy-making' is a fashionable term but tends to be rhetorical, as policy-makers and researchers tend to follow their own agenda and preoccupations. This report attempts to address this issue by bringing together research experts to discuss policy priorities for VET. This report is timely as common VET policy priorities are agreed between EU ministers for education, the European Commission and the social partners in the Copenhagen process. These priorities have just been revised and new directions set during the French EU Presidency, in the Bordeaux communiqué (European Commission, 2008). The Copenhagen process was the backdrop against which issues discussed in the report were selected.

The report is divided into two parts. Part I provides a review of external pressures for modernis-

<sup>(1)</sup> Cedefop (1998); Cedefop, Tessaring (1999); Cedefop, Descy and Tessaring (2001a,b; 2004a,b,c; 2005).

<sup>(2)</sup> Cedefop (2008a; 2009a; forthcoming).

<sup>(3)</sup> Available from Internet: [http://ec.europa.eu/education/copenhagen/index\\_en.html](http://ec.europa.eu/education/copenhagen/index_en.html) [cited 19.11.2008].

ing VET, such as the need to increase competitiveness, population ageing, labour-market pressures and the objective of improving social cohesion while reducing social exclusion. Part II addresses trends in VET modernisation, such as increasing the image and attractiveness of VET, qualifications frameworks and the shift to learning outcomes, changes affecting VET teachers' and trainers' roles as well as information, advice and guidance (IAG) practices, policies and research.

In Part I, the objective of Chapter 1 is to compare Europe with several of its 'competitors' on several performance indicators directly or indirectly associated with the transition to knowledge-based societies. It sets the scene for the modernisation of VET as 'knowledge-based competitiveness', referring to issues such as generation of skills and knowledge, participation in learning activities and education equity.

Chapter 2 discusses future demographic developments in Europe and analyses the implications for VET. It considers the consequences of population ageing for the labour market and employment and provides insight on its impact for initial VET. It also analyses how continuing VET can be included in the toolbox of active ageing and related policies that are needed to adapt the socioeconomic landscape to current and future demographic developments.

The aim of Chapter 3 is to provide insights into how current labour-market trends call for VET modernisation. Four major issues are discussed: youth unemployment and worsening job quality, the partial implementation of flexicurity, persisting skills shortages, and the lack of significant achievement of geographical mobility policies.

Chapter 4 provides a synthesis of the relationship between firms' training provision and their performance. It summarises major findings from research on the links between employer provided training and enterprises' innovation capacity, growth and productivity. By analysing data from the third continuing vocational training survey, it also describes some of the recent trends in firm-provided training in Europe.

Chapter 5 reviews evidence of various social benefits of VET, in particular analysing its contribution to reducing social exclusion and

enhancing social cohesion. It also discusses its role *vis-à-vis* social reproduction and in which circumstances it can promote social mobility. Finally, it analyses different economic models of economic competitiveness and social cohesion, to discuss those most conducive to achieving the Lisbon goals, and reflects on the role of education, VET and adult learning.

In Part II, Chapter 6 introduces the issue of raising the attractiveness of VET, where progress can be achieved by implementing a wide array of policies. It looks at the current situation of VET attractiveness in the EU, reviews the re-search literature on the determinants of VET attractiveness, analyses recent national policy developments – and the Copenhagen process priorities – and draws recommendations for future VET attractiveness policies and research.

Chapter 7 illustrates and analyses the inter-connections between qualifications systems, qualifications frameworks and learning outcomes at national and European level. We position qualification frameworks as political instruments of European education policy and its governance. We explain their objectives and expected benefits. We draw conclusions from the various country experiences and discuss the background and rationale of the European qualifications framework.

Chapter 8 reviews statistical, empirical and comparative research evidence to identify common themes and issues for VET teaching and training professionals and to describe contexts and trends which drive developments in the profession. It provides a tentative mapping of professional profiles of VET teachers and trainers, discusses the age structure and potential skills shortages in the teaching profession and reviews recurrent themes for initial and continuing professional development. Finally, it discusses how VET professionals can become VET modernisation agents, shaping and implementing VET reforms and initiating innovation at ground level.

Chapter 9 addresses the provision of IAG in a lifespan perspective. It constitutes an up-to-date review of the research literature on IAG practices, policies and research in the EU. The chapter outlines why and in what way IAG, as a dimension of VET, needs to be modernised in light of the

Copenhagen process. The chapter then discusses the importance of IAG in achieving the Lisbon goals, IAG fragmentation, the modernisation of IAG practice and practitioner training, as well as issues for future IAG research.

The conclusion of this report outlines recommendations for future research to support modernisation and good governance of VET.

## Contributions to the background report of the fourth research report

This synthesis report relies partly on the contributions to the background report published separately by Cedefop<sup>(4)</sup>. These background contributions have been published in three volumes.

Volume 1 addresses issues of the socio-economic context which influence the modernisation and reform of VET, including issues such as social mobility, inclusion and cohesion, skills shortages and geographic mobility. It comprises the following contributions:

Volume 2 addresses various aspects and dimensions of VET modernisation such as the training and development of VET teachers and trainers, learning at the workplace, VET for older workers, and the diversification of VET and higher education. One of the contributions is dedicated to the issues that are likely to remain high or to emerge on the VET reform agenda beyond 2010 and their research dimension.

Geographical mobility	Terry Ward
Social mobility and VET	Giorgos Tsakarissianos
The role of vocational education and training in enhancing social inclusion and cohesion	John Preston, Andy Green
Skill shortages	Olga Strietska-Illina
The private benefits from vocational training: a new framework	Wendy Smits
The importance of information, advice and guidance over the life-cycle	Lex Borghans, Bart Golsteyn

New and emerging issues in vocational education and training research beyond 2010	Catherine Béduwé, Jean-François Germe, Tom Leney, Jordi Planas, Marianne Poumay, Russel Armstrong
The training and development of VET teachers and trainers in Europe	David Parsons, Jacqui Hughes, Chris Allison, Kenneth Walsh
Learning at the workplace	Elke Gruber, Irene Mandl, Thomas Oberholzner
The learning society as a greying society: perspectives of older workers and lifelong learning	Tarja Tikkanen
'Through the looking-glass': diversification and differentiation in vocational education and training and higher education	Torsten Dunkel, Isabelle Le Moullour, in collaboration with Ulrich Teichler
Policy learning: applying the changing learning paradigm for policy advice on VET reforms in transition countries	Peter Grootings, Sören Nielsen

Volume 3 addresses additional aspects and dimensions of VET reforms such as the development of policies to improve the attractiveness of VET or the implementation of national qualifications frameworks. It also discusses European tools and strategies for VET modernisation.

Towards knowledge-based societies: indicators of European competitiveness	Manfred Tessaring
Improving the image and attractiveness of VET	Jean Gordon, Johanna Lasonen
Legibility of qualifications: an issue as long-standing as Europe	Annie Boudier, Françoise Dauty, Jean-Louis Kirsch, Philippe Lemistre
The role of national qualifications systems in helping to modernise vocational education and training systems	Mike Coles, Patrick Werquin
European strategies and priorities for modernising vocational education and training	Sandra Bohlinger, Dieter Münk

(4) Cedefop (2008a; 2009a; forthcoming).



# Part I

Challenges for vocational education  
and training modernisation

# 1. Competitiveness, productivity and growth: the role of human capital

In economic terms, competitiveness is determined by the productivity with which a country's human and physical resources are deployed. A competitive country is successful in world markets, attractive for investors and has the ability to achieve and maintain a high and sustainable standard of living for its citizens. Competitiveness is a lever to achieving economic, social and environmental goals and ensuring good quality of life. This crucially depends on the competitiveness of a country's firms and on their capacity for adjustment. It equally depends on a country's knowledge base: its human and social capital and skills, as well as its capacity for reform and innovation. However, competitiveness is a multi-dimensional and comparative concept that entails various aspects of performance affecting the living and working conditions of individuals, the performance of firms and social cohesion. It also includes the quality and efficiency of the legal, political, institutional, economic and social framework, without which competitiveness will not be sustainable in the longer run.

The objective of this chapter is to compare the European Union (EU) with a number of its 'competitors' by outlining a set of performance indicators directly or indirectly associated with the formation of knowledge-based societies. Human capital and research and development (R&D) are increasingly regarded as decisive factors of competitiveness in a globalised world, in particular in countries which lack natural resources. High quality products and services, innovation, creativity and the capability to adapt to fast-changing economic and social conditions are closely associated with the skills and competences of workers, and thus with the capability of education and training systems to provide 'modern' and future-oriented skills. This notion of a 'knowledge-based competitiveness' refers, for example, to issues of generation of, and investments in, skills and knowledge, participation in learning activities and the resources allocated to science, technology and R&D.

## 1.1. Political background

In its efforts to promote competitiveness, the EU strives to adapt its societies and economies to structural change and redeployment of jobs and resources to emerging economic sectors and changing skill requirements. A major impetus was given by the Lisbon Council 2000 which stressed the need to undertake, until 2010, major economic and social reforms as part of a strategy combining competitiveness of the EU with social cohesion (Council of the EU, 2000c). The Council stressed that achieving this goal includes:

- (a) transition to a knowledge-based economy and society by accelerating structural reform;
- (b) modernising the European social model, investing in people and combating social exclusion.

The Lisbon agenda was renewed in 2005 (Council of the EU, 2005). The Council set three priority areas: knowledge society, internal market, and business climate. It recommended, in particular, substantial investment in R&D, and in education and training.

In following up the Lisbon agenda 2000, countries worked together through the open method of coordination and set up several initiatives to achieve these goals, for example:

- (a) the creation of a Competitiveness Council (Council of the EU, 2002a) focusing on the internal market (free movement of persons and goods), industry (adjustment to structural change, innovation) and research;
- (b) the Education and training 2010 work programme (2002) which defines common objectives and benchmarks for modernising European education and training systems to be achieved until 2010 (Council of the EU, 2002b);
- (c) the Copenhagen process (European Commission, 2002a) calling for enhanced cooperation in vocational education and training (VET). This includes prioritising the European dimension of VET; transparency, information and guidance; recognition of competences

and qualifications; quality assurance, and VET teachers and trainers;

- (d) the agreement by the Education Council (European Commission, 2003) on European benchmarks for improving education and training systems to 2010. These concern: reduction of early school leaving; increasing graduates in mathematics, science and technology while reducing the gender imbalance; increasing completion of upper secondary education; reducing low-achieving pupils in reading literacy; increased participation of adults in lifelong learning; and the call to invest more in human resources;
- (e) the *Integrated guidelines for growth and jobs (2008-10)* (European Commission, 2007d), giving higher priority to the social dimension, flexicurity policies, energy and climate change, and to education and skills as major elements in modernising European markets, promoting innovation and ensuring equal opportunities for citizens;
- (f) the *Council resolution on new skills for new jobs* (Council of the EU, 2007, p. 1) which defines education and training, in the context of lifelong learning, as ‘indispensable means for promoting adaptability and employability, active citizenship, personal and professional fulfilment. They facilitate free mobility for European citizens and contribute to the achievement of the goals and aspirations of the EU, as it seeks to respond to the challenges posed by globalisation and an ageing population.’

## 1.2. Indicators for competitiveness

Assessing whether these policy goals have already had effects on increasing the competitiveness and performance of the EU compared with its

competitors is not possible overall, in particular using empirical data and indicators. No single indicator is able to prove whether or not a country is generally performing well. For the EU, an additional problem lies in the heterogeneity of its Member States: whereas some are performing above average or even belong to the top performers worldwide for a particular indicator, others belong to a lower level. The following sections present some selected indicators to provide a general overview on where the EU stands – compared with its major competitors – in regard of economic and employment performance; science, technology and R&D; educational attainment and student performance; and expenditures on education and training <sup>(5)</sup>.

### Box 1:1. What is an indicator?

An indicator is a data point or quantitative measure of a complex socioeconomic condition. The ‘purpose of indicators is to characterise the nature of a system through its components – how they are related and how they change over time. This information can then be used to judge progress toward some goal or standard, against some past benchmark, or by comparison with data from some other institution or country’.

Source: Shavelson et al. (1991).

### 1.2.1. Economic and employment performance

#### 1.2.1.1. Productivity and economic growth

Economic performance is the most common and ‘traditional’ evidence of competitiveness. The main general indicators of economic performance at macro level are gross domestic product (GDP) and its growth, and labour productivity. GDP per capita is an indicator of the standard of living in a given country and, as such, a measure for performance and competitiveness of this country.

<sup>(5)</sup> The data presented in this chapter come from international sources. However, not all indicators are available for all countries, and comparability is not always ensured. Further, the EU average is not weighted and does not always include all Member States. Therefore, for each indicator the best performing EU Member States – as far as data are available – have been included. For a more detailed presentation of indicators for all countries where data are available see Cedefop, Tessaring (forthcoming).

Research has shown <sup>(6)</sup> that economic growth is significantly influenced by education, training and the skills of population. 'Broadly, the weight of evidence suggests that a 1 % increase in school enrolment rates has led to an increase of GDP per capita growth of between 1 and 3 %. An additional year of secondary education, which increases the stock of human capital, rather than simply the flow into education, has led to a more than 1 % increase in economic growth each year' (Cedefop, Wilson and Briscoe, 2004; p. 60).

Table 1:1 shows the GDP per capita 2007 in monetary terms. This measure of the standard of living shows that the EU, on average, is lagging behind the US, Australia, Canada and Japan.

However, several Member States are performing clearly above average. In economic growth 2006-07, the EU is performing satisfactorily (4 %); the same applies to labour productivity (USD 34.5 per hour). Also here, several Member States are among the best performers worldwide.

#### 1.2.1.2. *Employment and unemployment*

Employment growth indicates how well an economy translates economic growth, productivity increase and working time regimes into jobs. The creation of new jobs is dependent on many factors such as legal and social infrastructure, support of entrepreneurship, demand for products and services – and their quality and price – and the

Table 1:1. **Indicators on economic performance**

	AU	CA	CN	IN	JP	KR	RU	US	24 EU MS <sup>(a)</sup>	EU top performers
GDP per capita 2007, USD 1 000	43.3	43.3	2.5	1.0	34.3	20.0	9.1	45.3	33.9	LU: 105.2 IE: 58.9 DK: 57.2
Real GDP growth per capita 2006-07 (%)	2.6	1.6	11.3	6.2	2.1	4.6	8.6	1.2	4.0	SK: 10.1 LT: 9.7 EE: 7.4
Labour productivity 2007 (GDP per person employed per hour, USD)	41.3	39.3	4.2	3.1	31.6	21.6	16.6	46.0	34.5	LU: 60.8 FR: 48.5 BE: 47.5

MS Member States. <sup>(a)</sup> Unweighted average. Source: IMD (2008).

Table 1:2. **Employment and unemployment indicators**

	AU	CA	CN	IN	JP	KR	RU	US	EU <sup>(a)</sup>	EU top performers
Employment growth 2006-07 (%)	2.8	2.3	0.8	2.6	0.5	1.2	2.4	1.1	2.1 (24 MS)	LU: 4.5 PL: 4.4 RO: 4.1
Employment rate 2005 (%) <sup>(b)</sup>	71.6	72.5	-	-	69.3	63.7	-	71.5	63.9 (27 MS)	DK: 75.9 NL: 73.2 SE: 72.5
Total unemployment rate 2007 (%)	4.4	6.0	4.0	8.9	3.9	3.2	6.1	4.6	6.5 (24 MS)	NL: 3.2 DK: 3.8 LT: 4.3
Youth unemployment rate 2007 <sup>(c)</sup>	10.6	12.4	-	-	7.8	10.2	15.7	11.3	18.7 (24 MS)	DK: 8.6 IE: 8.7 NL: 9.6

MS Member States. <sup>(a)</sup> Unweighted average. <sup>(b)</sup> Employed persons aged 15-64 years as % of working age population. <sup>(c)</sup> Unemployed aged 15-24 years in % of labour force of same age. Source: Eurostat (2008); IMD (2008).

<sup>(6)</sup> See Cedefop's third report on VET research in Europe (Cedefop; Descy and Tessaring, 2004a; 2005).

availability of workers for specific jobs and sectors in which employment is increasing.

Employment growth 2006-07 was weak in the EU on average (2.1 %) but insufficient employment growth is not only a European phenomenon. It was equally weak in several non-European countries listed in Table 1:2, such as in Japan, Korea and the US.

The employment rate is an indicator of the ability of an economy to provide work opportunities for all those who are able and willing to work, and to utilise their skills and competences. The EU has set, in its Lisbon strategy, a benchmark of an average employment rate of 70 % to be achieved by 2010. In 2005, only few Member States surpassed this benchmark (on average 64 %) and the EU is still far away from this benchmark. Outside Europe, where data are available, Australia, Canada, Japan and the US all have employment rates higher than 65 %.

The unemployment rate signals the degree of non-utilisation of the labour force. On average, the unemployment rate in the EU in 2007 (6.5 %) was rather high compared to other countries. Few Member States had unemployment rates below 5 %.

Youth unemployment rates indicate how well a country is able to integrate young people and school leavers into the labour market. This issue becomes increasingly important in the context

of demographic change which does not permit waste of human resources, particularly of young people. Further, it is difficult and costly to reverse or compensate disadvantages experienced in younger age later on, especially when youth unemployment is persistent. Youth unemployment rates vary much across Member States; the EU average for youth unemployment is extremely high (18.7 %) and has not decreased for many years (IMD, 2008) (7). Japan, Korea and Australia have considerable lower youth unemployment rates, ranging between 8 and less than 11 %.

### 1.2.2. Science, technology, R&D and innovation

Science, technology and R&D are key issues for the competitiveness of a country. Science and technology are closely associated with innovation and, indirectly, also with skills, education and training opportunities and a science-conducive infrastructure.

Table 1:3 displays some selected science and technology indicators: number of patents, computers per capita, R&D personnel and expenditure, and high-tech exports.

Several Member States score well on these indicators and are top on a global ranking (such as on the number of patents). However, the EU on

Table 1:3. **Science and technology indicators**

	AU	CA	CN	IN	JP	KR	RU	US	EU (a)	EU top performers
Number of patents in force 2006 (per 100 000 people)	463.0	355.0	14.0	1.0	879.0	965.0	87.0	586.0	581.0 (23 MS)	LU: 5605 SE: 1149 BE: 853
Computers per capita 2007 (per 1 000 people)	796.0	790.0	65.0	24.0	642.0	673.0	221.0	836.0	523.0 (24 MS)	SE: 847 DK: 825 NL: 802
R&D personnel 2006 (per 1 000 people)	5.9	6.2	1.1	-	7.3	4.9	6.5	-	4.9 (24 MS)	FI: 11.1 LU: 10.0 SE: 8.6
Total expenditure on R&D 2006 (% of GDP)	1.8	2.0	1.4	0.7	3.4	3.2	1.1	2.6	1.5 (24 MS)	SE: 3.7 FI: 3.5 DE: 2.5
High-tech exports 2006 (% of manufactured exports)	12.3	15.2	30.3	4.8	21.6	32.0	9.4	30.1	14.3 (24 MS)	IE: 34.4 UK: 33.6 NL: 28.2

MS Member States. (a) Unweighted average.

Source: IMD (2008).

(7) For a more exhaustive discussion of labour-market trends including youth situation, refer to Chapter 2.

average lags behind some advanced economies in terms of computers per capita. Countries like China, Korea and the US clearly outperform the EU in high-tech exports, although – here again – several Member States are highly competitive.

Resources allocated to R&D are one of the most straightforward indicators for competitiveness as they express a country's and its enterprises' ability and willingness to invest in research and development of innovative products and systems, with a view to staying ahead of competitors. Innovation is seen as the main element for competitive advantage in the world market in a medium and longer-term view.

The EU (4.9 %) is ranked lower than its competitors for R&D personnel, though Luxembourg, Finland and Sweden clearly have a higher proportion than other countries. A similar situation applies to expenditure on R&D relative to GDP, where Germany, Finland and Sweden compare favourably, with shares between 2.5 % and 3.7 %.

Closely linked to R&D is a country's innovation performance, which recent research conceptualises as a combination of several factors <sup>(8)</sup>. Three factors are input-based and refer to elements inducing innovation: drivers, knowledge creation and innovation and entrepreneurship. The other two factors evaluate results or output: innovation applications and intellectual property. The European innovation scoreboard synthesises both input and output related indicators for innovation performance into a single indicator: the

summary innovation index. Table 1:4 presents the summary innovation index for EU-27 and some major competitors.

In terms of innovation performance, the EU performs better than Australia and Canada, but lags behind the US and Japan. However, the performance in the Member States varies considerably. Innovation leaders include Denmark, Germany, Finland, Sweden and the UK. Belgium, Ireland, France, Luxembourg, the Netherlands and Austria are innovation followers. Moderate innovators include the Czech Republic, Estonia, Spain, Italy, Cyprus and Slovenia. Bulgaria, Greece, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Romania and Slovakia are catching up.

### 1.2.3. Education indicators

#### 1.2.3.1. Indicators on educational attainment and performance

The educational attainment <sup>(9)</sup> of the population is the most straightforward proxy indicator for the level of human capital accumulated by a country. As research on the determinants of economic growth has shown (see, for example, Cedefop, Descy and Tessaring, 2005), human capital, together with R&D, yields considerable economic and social benefits and is closely associated with economic growth, productivity and social cohesion <sup>(10)</sup>. To reduce the substantial number and proportion of low-skilled people is among the highest priorities on the EU's education and training agenda <sup>(11)</sup>.

Table 1:4. **Summary innovation index**

	AU	CA	JP	US	EU-27 (a)	EU top performers
Summary innovation index	0.36	0.44	0.60	0.55	0.45	SE: 0.73 FI: 0.64 DK: 0.61

MS Member States. <sup>(a)</sup> Unweighted average. <sup>(b)</sup> Employed persons aged 15-64 years as % of working age population.

<sup>(c)</sup> Unemployed aged 15-24 years in % of labour force of same age.

Source: Eurostat (2008); IMD (2008).

<sup>(8)</sup> A good example is the European innovation scoreboard, which is an instrument developed at the initiative of the European Commission to provide a comparative assessment of the innovation performance of Member States (Innometrics, 2008).

<sup>(9)</sup> According to ISCED levels: ISCED 0: pre-primary education; ISCED 1: primary education; ISCED 2: lower secondary education; ISCED 3: upper secondary education; ISCED 4: post-secondary non-tertiary education; ISCED 5 and 6: tertiary education. Usually, ISCED levels are aggregated: ISCED 0-2: low skilled; ISCED 4-5: skilled; ISCED 5-6: highly skilled.

<sup>(10)</sup> For a research-based analysis of the relationship between education and social cohesion see Chapter 5.

<sup>(11)</sup> See for example the Maastricht, Helsinki and Bordeaux communiqués by the European Ministers for Vocational Education and Training, the European social partners and the European Commission (2004b, 2006e, 2008).

Table 1:5 shows the educational attainment of working age populations (age 25-64) for two main levels of education: primary and lower secondary – so-called low-skilled people – and upper/post-secondary and tertiary education together.

With almost one third of low-skilled on average, the EU is not strong in educational attainment. However, several Member States are among the highest skilled economies in the world, with between 86 and 90 % of the population having completed upper secondary or tertiary education. Outside the EU, the Russian Federation (89 %) ranks first in the international comparison; the Canadian, Japanese and the US populations also belong to the highest skilled worldwide.

The ratio of students per teacher can be regarded as proxy for the efforts of a country to ensure optimal learning conditions and to provide individual and tailored support to learners. Although a 'good' student-teacher ratio does not

necessarily imply good quality teachers and trainers, it can be seen as an indicator of the quality of the learning environment and of the support provided to pupils with special needs. This contributes to the performance of education and training systems as well as of individual learners. This is very important, as teachers/trainers are the most important agents of innovation and knowledge transfer. Some Member States have invested a lot in teacher employment and have the lowest student-teacher ratios at upper secondary level worldwide. On average, at this level the EU has a more favourable student-teacher ratio (11.5) than the other countries apart from Russia <sup>(12)</sup>.

Rankings for student performance at the age of 15 (OECD, 2007a) show that several Member States – in particular, Estonia, Ireland, the Netherlands and Finland – are among the best performers worldwide regarding proficiency in reading, mathematics and science. For non-

Table 1:5. **Indicators on educational attainment and performance**

	AU	CA	JP	KR	RU	US	EU <sup>(a)</sup>	EU top performers
<b>Educational attainment of adult population 2006 (%) (b) in:</b>								
Primary and lower secondary education <sup>(c)</sup>	33	14	- <sup>(d)</sup>	23	11	12	31 (19 MS)	CZ: 10 EE: 12 SK: 13
Upper secondary and tertiary education <sup>(d)</sup>	67	86	100 <sup>(e)</sup>	77	89	88	69 (19 MS)	CZ: 90 EE: 88 SK: 86
Ratio of students to teaching staff 2004 in upper secondary education	12.2 <sup>(f)</sup>	15.9 <sup>(f)</sup>	12.7	15.9	9.9e	15.7	11.5 (19 MS)	PT: 7.5 ES: 7.8 EL: 8.3
<b>Student performance 2006 (proficiency level 3 and higher) on the OECD PISA scale for: (%)</b>								
Reading	65.6	71.1	59.6	81.6	34.7	-	54.0 (25 MS)	FI: 79.7 IE: 67.0 NL: 63.6
Mathematics	66.5	70.6	68.1	76.1	46.3	45.9	55.0 (25 MS)	FI: 79.7 NL: 69.6 EE: 66.1
Science	66.9	70.9	69.5	67.6	47.6	51.3	56.3 (25 MS)	FI: 82.2 EE: 71.4

MS Member States. <sup>(a)</sup> Unweighted average. <sup>(b)</sup> 25 to 64 year old population by highest education attained.

Source: OECD (2007a; 2008a).

<sup>(c)</sup> ISCED 0-2 incl. ISCED 3C short. <sup>(d)</sup> ISCED 3-6. <sup>(e)</sup> Japan: upper secondary education includes ISCED

3C short. <sup>(f)</sup> All secondary education.

<sup>(12)</sup> Note that these ratios are not fully comparable across countries; in several non-EU countries they refer to all secondary education levels.

European countries, Australia, Canada, Japan, and Korea are among the best performers, while the US and Russia are on the lower part of the scale. This contrasts with the (formal) educational attainment levels, where Russia and the US have the highest qualification levels worldwide (see above).

#### 1.2.3.2. Expenditure on education, training and R&D

Although increased levels of education expenditure do not necessarily improve competitiveness, expenditure on education expresses a country's willingness (and priority) to invest in its human capital to ensure economic performance, social cohesion, individual development and civic participation. However, as Table 1:6 shows, the EU (average: 5.2 % of GDP) is middle rank in total public and private expenditure on education (at all levels). Again, several Member States, such as Denmark, Slovenia, Sweden and the UK are on a par with the most advanced competitor countries. Among the non-European countries, Korea and the US score highest with more than 7 %.

It is not only total expenditure on education and training that is important, but also allocation to different levels, especially upper secondary and tertiary. In upper secondary education – which includes VET – many Member States score well (EU average: 1.2 % of GDP). Of non-European countries, where data are available, only Korea spends a higher proportion of its GDP on this educational level.

Expenditure on higher education is more of a priority for the US, Korea, Canada and Australia with figures between 1.6 % and 2.9 % of GDP. No EU Member State spends more than 2 % on tertiary education; top performers are Denmark, Poland, Finland and Sweden with between 1.8 % and 1.6 %.

### 1.3. Conclusions

'Competitiveness' is not a well defined concept, but comprises many aspects and issues. This chapter focused on competitiveness related to the shift towards knowledge-based societies. It presented several indicators on economic, labour-market science and technology and on skills worldwide. However, indicators have to be interpreted with some caution, because they do not take into account the specific cultural, historical and political background of a given country; also, they change in the course of time, as do rankings across countries.

Indicators on skills, knowledge, education and training, R&D and related fields, show several Member States – though not the EU as a whole – are performing satisfactorily and are highly competitive in a worldwide comparison. This applies particularly to their performance in education, training, skills and science, and also to some labour-market performance indicators. However, there is a broad variation and heterogeneity between Member

Table 1:6. Indicators on expenditure on education, training and R&D

	AU	CA	CN	IN	JP	KR	RU	US	21 EU MS <sup>(a)</sup>	EU top performers
Total expenditure on education and training 2005 <sup>(d)</sup> (% of GDP); of which for:	5.8	6.2	2.4 <sup>(d)</sup>	2.9 <sup>(d)</sup>	4.9	7.2	3.8	7.1	5.2	DK: 7.4 SE: 6.4 UK, SI: 6.2
– upper and post-secondary education <sup>(b)</sup>	0.9	-	-	-	0.9	1.4	-	1.0	1.2	BE: 2.6 UK: 2.2 EL: 1.5
– tertiary education <sup>(c)</sup>	1.6	2.6	-	-	1.4	2.4	0.8	2.9	1.2	DK, FI: 1.8 PL, SE: 1.6

MS Member States. (a) Unweighted average. (b) ISCED 3. (c) ISCED 5-6. (d) India and China: 2006; public expenditure only.

Source: OECD (2008a).



States which make generalisations difficult. In most cases the cluster of Nordic Member States, plus Ireland, the Netherlands and the UK, and others, including some 'new' Member States, are among the best performers.

For economic performance, several Member States are on a par with the US and some other non-European countries, particularly in terms of economic growth and labour productivity. A similar situation applies to employment growth and employment and unemployment rates. The best performing countries in enrolment in education and training, student performance and student-teacher ratios are Member States. This also holds for expenditure on education and training. Several Member States – although not the EU as a whole – are on a par with Japan, Russia and the US in the qualification level of the population.

What makes some countries more 'competitive' than others in terms of education, training and

skills? What are the links between investments in human capital – particularly in VET – and economic and employment performance? Which statistics are needed to construct better and more coherent indicators? These and other questions call for more comparative research and investigation into the particular situation of individual countries. This includes their political, social and economic environment, and the links between education, training and skills on the one hand, and economic, employment and social performance on the other. Once these requirements are fulfilled, it will be possible to construct a system of indicators which is comparable across countries and provides substantiated evidence on the many facets of a knowledge-based economy. Such benchmarking and measures are necessary for policy-makers to shape future education and training systems which improve both social and economic competitiveness.

## 2. Labour-market pressures on VET

The aim of this chapter is to provide some insights into how current labour-market trends call for modernising vocational education and training (VET). The chapter is based on a review of statistics on labour-market trends and is supported by insights from the research literature. Four major themes emerge from this review: the worsening unemployment and job quality situation for youth; the fact that the movement to flexicurity is stuck; persisting skills shortages; and the persistent lack of significant achievement in geographical mobility policies. These trends will be discussed and analysed in the following four sections.

### 2.1. Youth in the labour market: unemployment and poor job quality traps

In some ways, the labour-market situation for youth has improved in the EU over the past decade. Positive changes could be observed in terms of increasing earnings and decreasing unemployment. First, OECD estimates (2008b) indicate increasing wage premia for education at secondary and tertiary levels among youth aged 15 to 24. Table 2:1 shows that in seven out of the 11 EU Member States for which data

were available, the economic return on one year of education was higher in 2004 than it was in 1997 <sup>(13)</sup>.

Next, following the general decrease in unemployment rates across the EU, the youth unemployment rate has declined in several countries. Table 2:2 shows that in 12 out of 16 Member States for which comparable data are available, the 2007 youth unemployment rate was lower than that of 1996 <sup>(14)</sup>. Table 2:3 shows that youth long-term unemployment has decreased in absolute and/or relative terms in 14 out of 19 Member States monitored.

Despite the positive developments in terms of wages and unemployment rates, the young also face a number of troubling labour-market trends. First, their overexposure to unemployment is a matter of concern. In most Member States, youth unemployment rates have been higher than adult rates for decades. Table 2:4 suggests that this trend has been worsening over the last decade. In 11 of 16 Member States for which data are available, the gap in unemployment rates between youth and adults was higher in 2007 than 10 years earlier.

More generally, there is a problem with the NEET status trap. NEETs are the young people who are neither in employment nor in education and training. This category groups people in diverse situations, unemployed or inactive for various reasons:

Table 2:1. **Wage premia for education at age 15-24 in 1997 and 2004**

	1997	2004		1997	2004		1997	2004
CZ	1.2	1.1	FR	1.2	1.2	FI	1.4	1.5
DK	0.7	0.9	IT	1.2	4.9	SE	0.6	0.7
DE	0.5	0.9	NL	0.9	1.5	UK	1.6	1.5
IE	1.3	1.3	HU	1.3	1.5			

Note: Data refer to:

– 1996 in Finland and the Netherlands and 1998 in Italy, instead of 1997;

– 2002 in Ireland, Italy and the Netherlands and 2003 in Denmark, Finland and Sweden, instead of 2004.

Source: EOECD (2008b, p. 29).

<sup>(13)</sup> However, in this table as in the next ones, only two years are compared, regardless of the trends in between.

<sup>(14)</sup> Even though youth unemployment rate remains higher than adults' in most countries.

Table 2:2. **Youth (less than 25 years) unemployment rate in 1996 and 2007**

									%
	1996	2007		1996	2007		1996	2007	
BE	22.1	18.8	IT	30.4	20.3	SI	17.5	10.1	
DK	9.7	7.9	LU	8.2	15.5	FI	28	16.5	
DE	9.5	11.1	HU	18.5	18.0	SE	20.5	19.1	
IE	18.2	9.2	NL	11.1	5.9	UK	14.9	14.3	
ES	39.2	18.2	AT	6.3	8.7	Average EU-25	-	15.1	
FR	27.9	19.4	PT	16.5	16.6	Average EU-27	-	15.3	

Source: Eurostat Database: <http://epp.eurostat.ec.europa.eu/>

Table 2:3. **Youth long-term unemployment in absolute and relative terms in 1997 and 2006**

	Incidence of long-term unemployment %		Youth long-term unemployment relative to adults (25-54)			Incidence of long-term unemployment %		Youth long-term unemployment relative to adults (25-54)	
	1996	2006	1996	2006		1996	2006	1996	2006
BE	38.2	32.3	0.6	0.5	HU	42.7	37.5	0.7	0.8
CZ	19.6	38.4	0.5	0.6	NL	34.8	21.1	0.7	0.4
DK	10.5	0.9	0.4	0.0	AT	18.2	15.8	0.7	0.5
DE	27.6	36.7	0.6	0.6	PL	28.9	37.2	0.7	0.7
IE	47.0	25.3	0.7	0.7	PT	40.7	34.5	0.7	0.6
EL	53.5	47.7	0.9	0.8	SI	37.7	57.6	0.6	0.7
ES	46.8	17.9	0.8	0.6	FI	10.6	5.5	0.3	0.2
FR	20.2	26.6	0.5	0.6	SE	13.4	4.0	0.4	0.2
IT	64.2	50.5	1.0	0.9	UK	25.1	14.5	0.6	0.6
LU	33.3	14.0	1.3	0.5					

Source: OECD (2008b, p. 30).

Table 2:4. **Youth (less than 25 years) relative overexposure to unemployment in 1996 and 2007**

Youth unemployment relative to adults (25-74)								
	1996	2007		1996	2007		1996	2007
BE	2.7	2.9	IT	3.7	4.1	SI	3.4	2.4
DK	1.7	2.5	LU	3.5	4.6	FI	2.1	3.0
DE	1.1	1.3	HU	2.2	2.7	SE	2.5	4.4
IE	1.7	2.4	NL	2.2	2.2	UK	2.2	3.9
ES	2.8	2.6	AT	1.5	2.3	Average EU-25	-	2.47
FR	2.8	2.7	PT	2.8	2.3	Average EU-27	-	2.50

Source: Eurostat database <http://epp.eurostat.ec.europa.eu/>

taking care of children or parents and other family responsibilities; illness and disability; and discouraged workers. In 2006, the NEETs represented 18.6 % of those aged 20-24 years on average in the EU. As can be seen from Table 2:5, data available for 10 Member States show that the inactives generally represent the major part of the NEETs five (or more) years after leaving school. The problem is with the 'always NEET' who are trapped in the NEET situation for a long period of time, for example because they have difficulties finding work. They represent more than 10 % in Germany, Ireland, Spain, France and the Netherlands; around 20 % in Greece and 30 % in Italy (European Commission, 2007a). While active labour market policies address the unemployed, no specific policy is targeted at the NEETs and discouraged workers. Yet, the European Commission suggests that the likelihood of belonging to the NEET category is strongly correlated with educational at-

tainment: the NEET rates <sup>(15)</sup> for 20-24 year olds in 2006 in EU-27 were 13.1 and 14.5 for those with university or upper secondary education respectively, but amounted to 33.6 for those with lower education levels (European Commission, 2007a, p. 40). The European Commission notes the importance of VET in this respect.

Also, job quality is an issue. Youth employment has been affected by the general increase in temporary employment across Member States. Table 2:6 shows that the percentage of temporary jobs in youth employment has increased from 34.9 to 40.9 between 2000 and 2006 in the EU on average (European Commission, 2007a, p. 46). Youth temporary employment is often a transitory stage towards permanent positions. However, many young people remain in these temporary jobs much longer than others. OECD estimates for 10 Member States show that while 50 % of

Table 2:5. **NEET status of youth five years after leaving school, both genders, 1997 to 2001, % of youth aged 15 to 29**

NEET							
	All	Unemployed	Inactives		All	Unemployed	Inactives
BE	18.5	5.8	12.7	IT	35.6	17.3	18.2
DK	22.4	4.2	18.2	AT	17.9	3.2	14.6
DE	19.6	7.1	12.5	PT	12.0	4.3	7.7
IE	25.2	5.8	19.4	FI	28.8	12.8	16.0
EL	33.6	11.7	21.8	UK	19.8	6.2	13.6
ES	31.0	17.0	14.0				

Source: OECD (2008b, p. 59).

Table 2:6. **Share of temporary jobs in youth (age 15-24) employment, both genders, EU-27, 2000 and 2006**

	2000	2006		2000	2006		2000	2006
BE	30.8	30.0	IT	26.6	40.9	PT	41.4	49.3
BG	12.2	12.6	CY	18.7	21.2	RO	3.3	5.0
CZ	12.4	18.9	LV	10.9	14.4	SI	46.3	64.2
DK	27.4	22.4	LT	9.3	10.5	SK	10.5	14.2
DE	52.4	57.6	LU	14.5	33.2	FI	45.4	44.2
EE	6.7	7.3	HU	13.6	16.9	SE	45.2	59.0
IE	15.9	10.9	MT	8.1	8.0	UK	14.2	12.9
EL	29.5	25.0	NL	35.5	43.5			
ES	68.3	66.1	AT	35.1	35.2	EU-27	34.9	40.9
FR	55.0	49.8	PL	14.8	67.3			

\* Uncertain due to small size of sample.

Source: European Commission (2007a, p. 46).

<sup>(15)</sup> Percentage of population group in NEET.

school leavers reached permanent positions within one year after leaving school, 27 % were still in temporary jobs five years later (Table 2:7). Multiplying temporary jobs can be a voluntary choice of people appreciating change, varied experiences and the convenience of engaging themselves for no longer than a short period of time. But people preferring permanent contracts can also be forced to take – and be trapped in – temporary jobs. Only the latter case raises concerns. The European Commission (2007a, p. 47) shows that voluntary and involuntary temporary work were balanced among those aged 20-24 in EU-27 in 2006 on average. But in 13 countries, the major part of temporary employment was involuntary: Belgium, the Czech Republic, Greece, Spain, France, Cyprus, Lithuania, Hungary, Poland, Portugal, Romania, Slovakia and Sweden.

Another aspect of job quality is working time. Table

2:8 shows that, in the EU on average, the percentage of the young working part-time increased both in absolute and in relative terms (compared with the percentage of adult part-time work). Part-time work raises two problems. First, while it can be chosen by workers depending on their preferences and needs (such as reconcile work and family demands), for some people who would have preferred full-time jobs it is imposed as the only possibility. Obviously, only the latter type (involuntary part-time work) is a matter of job quality. Second, it generates a career risk associated with part-time work, especially for women. The European Commission notes that ‘part-time work for women can be associated with negative future career prospects, particularly in the private sector of the economy, for example in terms of lower wages, social security coverage, less training and fewer transitions to full-time jobs’ (European Commission, 2007a, p. 128).

Table 2:7. **Share of workers in temporary and permanent jobs by qualifications and years since leaving school – 10 Member States\* 1997-2001**

Educational attainment (both genders)	Share of permanent		Share of temporary	
	One year	Five years	One year	Five years
Low-skilled	38.9	67.2	61.1	32.8
Medium- high-skilled	53.0	75.5	47.0	24.5
Total education	50.2	73.0	49.8	27.0

\* Population-weighted average of the following countries: Belgium, Denmark, Germany, Ireland, Greece, Spain, Italy, Austria, Portugal and Finland.

Source: OECD (2008b, p. 53).

Table 2:8. **Youth (15-24 years) part-time employment in absolute and relative terms in 1996 and 2007**

	Incidence of part-time employment %		Youth part-time employment relative to adults (25 years and over)			Incidence of part-time employment %		Youth part-time employment relative to adults (25 years and over)	
	1996	2007	1996	2007		1996	2007	1996	2007
BE	15.7	20.5	1.1	0.9	HU	2.3	5.3	0.6	1.3
DK	44.0	55.4	2.6	2.9	NL	57.1	69.7	1.6	1.6
DE	7.9	20.3	0.4	0.7	AT	8.3	17.6	0.5	0.7
IE	13.5	25.0	1.2	1.4	SI	8.5	29.8	1.3	4.1
EL	9.1	11.6	1.8	2.2	PT	6.3	9.2	0.7	0.7
ES	13.0	21.3	1.8	1.9	FI	42.7	37.2	4.8	3.3
FR	24.3	22.6	1.5	1.3	SE	40.3	39.9	1.7	1.7
IT	8.1	18.7	1.2	1.4	UK	29.3	33.9	1.2	1.4
LU	7.4	8.7	0.9	0.4	EU average*	20.2	25.6	1.2	1.4

\* Depending on the period: EC-12 (1994), EU-15 (2004), EU-25 (2006), EU-27.

Source: Eurostat Database <http://epp.eurostat.ec.europa.eu>

## 2.2. Flexicurity

Flexicurity is becoming a major aim in steering European labour markets (European Commission, 2006d, 2007a, 2007b; Eurofound, 2007, 2008). It is targeted at allowing firms to use flexible forms of work organisation and labour relations while ensuring good employee prospects for employment and career development, based on provision of appropriate training and support, as well as reinforced income security through social security measures. The expansion of flexicurity as a leading paradigm reinforces the key role assigned to training, making flexicurity an important issue in future VET developments. However, it is unclear whether flexicurity has already become an effective and discernable trend in actual EU labour markets and, if it has, to what extent. Research on flexicurity still lacks overall indicators which would enable monitoring of development but elements of the phenomenon in EU labour markets can be captured through the changes in flexibility practices and security policies.

### 2.2.1. Flexibility

Over the past two decades, labour-market flexibility in the EU has been enhanced in several ways; the first is increasing use of short-term work contracts. Eurofound <sup>(16)</sup> (2007, p. 8) shows that the percentage of fixed-term contracts in total employment in EU-27

has increased from 11.7 % in 1995 to 12.6 % in 2000 and 14.5 % in 2005. Next, working time arrangements and work organisation patterns have been adapted. Based on the establishment survey on working time and work-life balance (ESWT) carried out by Eurofound in 2004-05, the European Commission identifies four major patterns of flexibility in working time arrangements across the EU (Table 2:9). Figure 2:1 synthesises the use of these flexible working-time arrangements in 21 Member States.

Adapting work organisation has been another major tool in increasing flexibility. The European Commission (2007a, p. 141-142) concludes that work organisation has changed since the 1980s and 1990s from the 'Tayloristic' organisational form to more flexible ones, termed 'new', 'flexible', 'lean', 'high-performance' or 'high involvement' work systems. Features of these innovative forms include flat hierarchical structure and command chains, self-responsible teams, multitasking, and involvement of lower grade employees in decision-making. Implementing these new forms generally requires specific human resources policies, i.e. performance-based pay, rewarding staff involvement, and increased provision of training to adapt workers to their new roles. Figure 2:2 shows that the percentage of employees involved in employer-provided training ranges from around 20 % for firms with traditional and Tayloristic work systems to around 35 % for firms with flexible work organisation.

Table 2:9. **Major patterns of flexibility arrangements in working time, 21 Member States, 2004-05**

Types of schemes by increasing degree of flexibility	Percentage of establishments
Workers are allowed to start and finish workdays at variable times, but cannot accumulate credit or debit hours	16 %
Accumulation of credit and debit hours over longer periods of time (such as a week or a month) are allowed, but credit hours cannot be compensated by full days off	7 %
Employees are permitted to take full days off to compensate for accumulated credit hours	13 %
Employees are allowed to take longer periods of time off (working time accounts; annualised working hours)	13 %

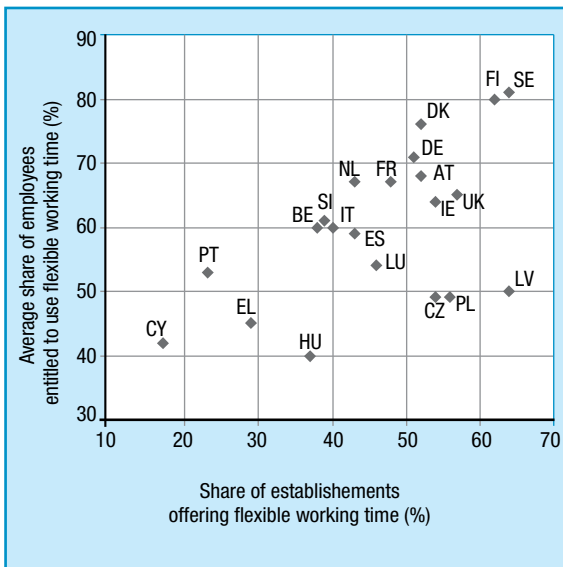
Source: European Commission (2007a, p. 130).

<sup>(16)</sup> The European Foundation for the Improvement of Living and Working Conditions.

Flexible work organisation is supposed to increase the production efficiency directly through enhanced responsiveness, and indirectly through higher staff motivation. Figures 2:3 (EU-15) and 2:4 (new Member States) show the expansion of some of these innovative work organisation forms since 1990. Quality management and worker

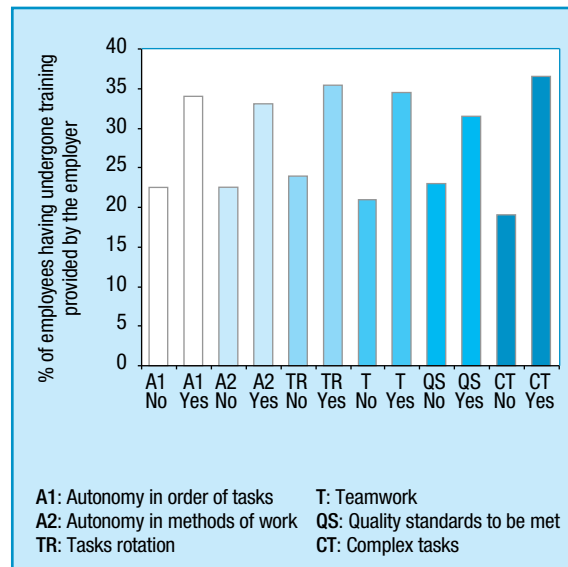
autonomy appear as the most frequent forms, involving from 60 % to 75 % of all EU workers. Worker involvement in complex tasks comes next, concerning from 50 % to 65 % of workers. Teamwork concerns around 55 % workers and ranks third. The least frequent form is task rotation, involving from 40 % to 45 % of workers.

Figure 2:1. **Proportion of companies offering flexible working-time arrangements and the average share of employees entitled to make use of them by country**



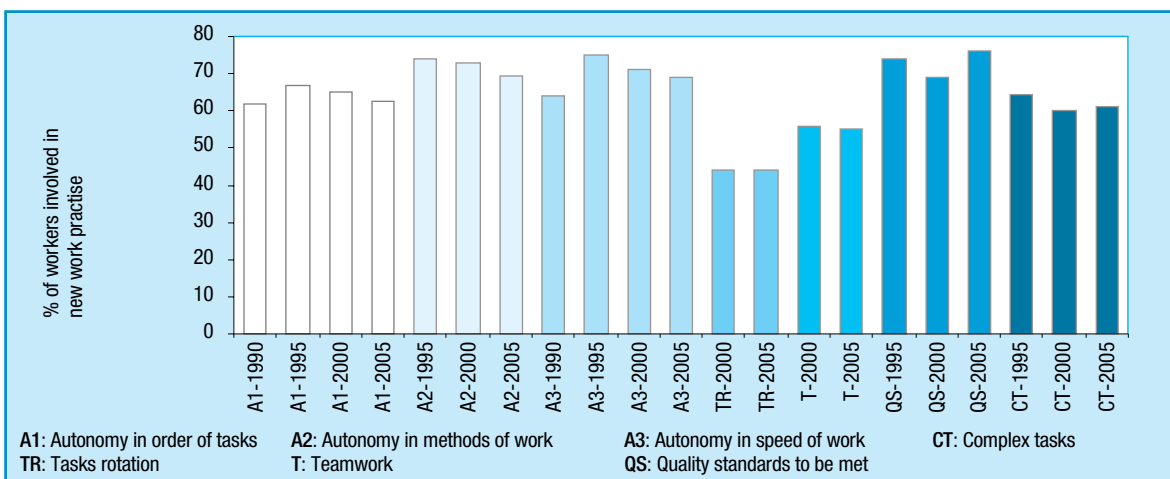
Source: European Commission, 2007a, p. 132.

Figure 2:2. **Work organisation and employer-provided training, EU-27, 2005**



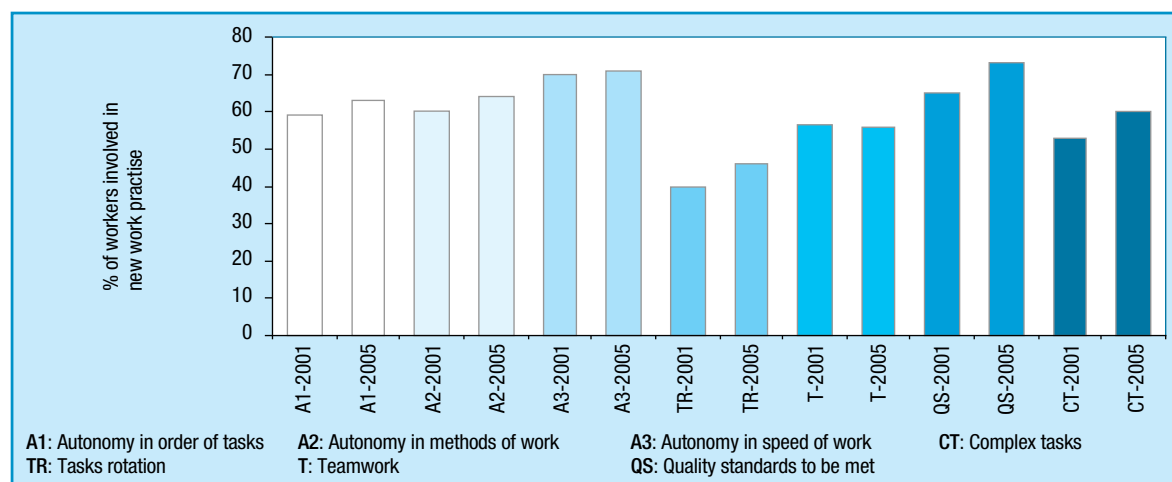
Source: European Commission, 2007a, p. 155.

Figure 2:3. **Evolution of flexible forms of work organisation, EU-15, 1990-2005**



Source: European Commission, 2007a, p. 149.

Figure 2:4. **Evolution of flexible forms of work organisation in 12 new Member States, 2001 and 2005**



Source: European Commission, 2007a, p. 150.

Limiting employment protection legislation has been another important way of making EU labour markets more flexible. Based on the legal, contractual, judicial and administrative rules used across countries for employee dismissals and severance payments, the OECD calculates an indicator of the stringency of national employment protection legislations. The indicator ranges from 0 to 6, the highest degree of stringency, i.e. the highest level of employment protection. Table 2:10 shows that employment protection legislation strictness decreased in several Member States between 1998 and 2003, confirming the trend towards greater flexibility.

### 2.2.2 Security

Three aspects of security are most often considered in the flexicurity debate: expectation of keeping the same job (job security); chances of remaining

employed, either in the current or in any other job (employment security); and income security (protection of income in situations such as illness, unemployment or maternity). The major tools for ensuring security are social security and active labour-market policies; however, available data suggest that these tools have failed to achieve their goal. Social security systems are supposed to provide financial support to individuals engaged in professional transitions. Their generosity can be proxied by the replacement rates of unemployment benefits as in Tables 2:11 and 2:12 which show the gross and net replacement rates computed by the OECD for 19 Member States in 1995-2005. Both gross and net replacement rates have decreased. Based on recent research findings, Eurofound (2008, p. 28) concludes that job insecurity is negatively correlated with unemployment benefits.

Table 2:10. **Overall strictness of employment protection legislation in 18 Member States, 1998 and 2003**

	1998	2003		1998	2003		1998	2003
BE	2.5	2.5	FR	2.8	2.9	SK	2.2	1.7
CZ	1.9	1.9	IT	3.1	2.4	FI	2.2	2.1
DK	1.8	1.8	HU	1.5	1.7	SE	2.6	2.6
DE	2.6	2.5	NL	2.3	2.3	UK	1.0	1.1
IE	1.2	1.3	AT	2.4	2.2			
EL	3.5	2.9	PL	1.9	2.1	Average	2.34	2.25
ES	3.0	3.1	PT	3.7	3.5			

Source: Online OECD employment database.



As a consequence, the decrease in replacement rates suggests that income security might have decreased too.

Active labour-market policies are also intended to play a role in flexicurity. Job and employment security can be enhanced through provision of training, support from public employment services, incentives to job demand, job sharing policies, government-supported employment, and start-up incentives. Country involvement in active labour-market policies can be measured by the level of corresponding expenditure. Table 2:13 shows public expenditure for active labour-market policies as a percentage of GDP in 17 Member States. A downward trend can be observed. On average, the percentage has decreased from 1.2 % in 1998 to 0.72 % in 2006. Several explanations for this trend are possible. The number of beneficiaries may have decreased in some countries over the period; the means and

financing made available for these policies may have been used with increasing efficiency; and GDP itself may have increased during these years. The reduction should not, therefore, automatically be interpreted as a serious problem. Nevertheless, the first impression is that of declining expenditures in active labour-market policies, suggesting less security, rather than more.

To sum up, it seems that while EU labour markets have been made more flexible since the 1990s, there is little evidence suggesting that progress has been made on security. This implies that, despite some steps forward, the flexicurity approach is not yet implemented in the EU. Education in general – and VET in particular – has a role to play to make this new philosophy a reality, by supporting the labour force to adapt to more flexible work processes, and by preparing them to deal more confidently and securely with repeated professional transitions.

Table 2:11. **Unemployment benefits: gross replacement rates in 19 Member States, 1995-2005**

	1995	1997	1999	2001	2003	2005		1995	1997	1999	2001	2003	2005
BE	39	40	39	38	42	41	HU	n/a	n/a	n/a	13	13	13
CZ	n/a	n/a	n/a	6	6	6	NL	52	52	52	53	53	35
DK	65	62	61	51	50	49	AT	33	32	33	32	32	32
DE	26	26	27	29	29	24	PL	n/a	n/a	n/a	11	12	11
IE	26	29	29	30	32	34	PT	35	35	45	41	40	40
EL	15	16	17	13	13	13	SK	n/a	n/a	n/a	12	12	8
ES	39	39	38	36	36	36	FI	36	34	34	35	36	35
FR	37	37	37	44	39	39	SE	27	27	24	24	24	24
IT	19	18	34	34	34	33	UK	18	18	17	17	16	16
LU	n/a	n/a	n/a	27	27	27							
							Average	33.3	33.2	34.7	28.7	28.7	27.1

Source: OECD social and welfare statistics.

Table 2:12. **Net replacement rates over 60 months of unemployment in 19 Member States, 2001-05**

	2001	2005		2001	2005		2001	2005
BE	61	62	FR	61	57	PT	43	44
CZ	22	20	IT	6	7	SK	34	9
DK	68	68	LU	23	24	FI	66	64
DE	64	33	HU	15	20	SE	31	29
IE	51	55	NL	61	40	UK	60	61
EL	20	17	AT	60	59			
ES	37	37	PL	36	47	Average	40	36

Source: OECD social and welfare statistics.

Table 2:13. **Public expenditure in active labour-market policy as a percentage of GDP, 17 Member States, 1998-2006**

	1998	1999	2000	2001	2002	2003	2004	2005	2006
BE	–	–	–	–	–	–	1.15	1.08	1.09
CZ	–	–	–	–	0.18	0.19	0.25	0.25	0.26
DK	–	–	2.02	–	2.02	1.91	1.85	–	–
DE	1.16	1.27	1.19	1.15	1.25	1.25	1.15	0.97	0.88
IE	1.15	1.06	0.95	0.88	0.80	0.71	0.65	0.63	0.61
ES	–	–	–	–	–	–	0.75	0.78	0.80
FR	1.16	1.22	1.19	1.15	1.11	1.05	0.95	0.90	0.92
IT	–	–	–	–	–	–	0.62	0.56	0.53
LU	–	–	–	–	0.29	0.42	0.47	0.51	0.49
HU	–	–	–	–	–	–	0.30	0.30	0.28
NL	1.48	1.51	1.51	1.54	1.60	1.56	1.40	1.33	1.22
AT	0.46	0.55	0.52	0.57	0.56	0.62	0.60	0.62	0.71
PL	–	–	–	–	–	–	–	0.42	0.45
PT	0.57	0.56	0.61	0.61	0.59	0.66	0.68	0.69	0.61
FI	1.15	1.06	0.89	0.82	0.84	0.90	0.95	0.89	0.89
SE	2.47	2.24	1.76	1.66	1.58	1.25	1.22	1.29	1.36
UK	–	–	–	–	–	0.46	0.46	0.45	0.42
Average	1.20	1.18	1.18	1.04	0.98	0.91	0.84	0.72	0.72

Source: Online OECD employment database.

### 2.3. Skill shortages

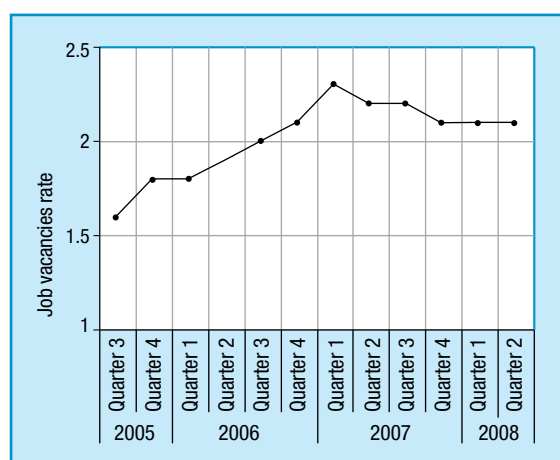
The issue of skill shortages has been recently reviewed by Strietska-Illina. A skill shortage is a lack of adequately skilled individuals in the labour market. Shortages result either from labour shortages (when unemployment levels are low) or from an insufficient number of individuals possessing the specific skills required. Strietska-Illina stressed that skill shortages can lead firms to change their skill demands and choose production technologies that require relatively low degrees of skill intensity. She outlined that this may result in low wages, sub-optimal work organisation, low productivity, and also impact on production and trade patterns (Cedefop, Strietska-Illina, 2008).

Recruitment difficulties are core symptoms of skill shortages. Job vacancy rates, the number of job vacancies as a percentage of all jobs (occupied or vacant) are indicators for recruitment difficulties. Figure 2:5 shows that the vacancy rate for all occupations and all economic sectors in the EU has been increasing since 2005, with stabilisation in 2007-08.

As Strietska-Illina pointed out, while data on skill

shortages at national level are available in several countries, comprehensive European overviews are scarce. Based on data from 12 countries, including 11 Member States (<sup>17</sup>), a study by the European public employment service vacancy monitor (van Bekkum and Lüdeke, 2007) shows that, in

Figure 2:5. **Job vacancy rate for all occupations and all economic sectors in EU-27, 2005-08**



Source: Eurostat database, job vacancy statistics by economic activity.

(<sup>17</sup>) Belgium, the Czech Republic, Germany, Estonia, Ireland, Lithuania, the Netherlands, Norway, Poland, Finland, Sweden and the UK.

2005-06, service workers and shop/market sales persons represented the highest proportion of new vacancies, at around 30 % of new vacancies in Sweden, Norway, Finland and the UK; and around 20 % in Belgium, Estonia, Ireland and Lithuania. The same study shows that, in nine out of 12 countries, information and communication technologies and the metal industry were the economic sectors with the highest growth rate in vacancies. A broader picture is provided by Strietska-Illina's contribution. Based on the 2001 study of the European Employment Observatory, she extends the list of occupations with shortages: business administrators (Belgium, Denmark, Greece, Spain, Portugal); chemists (Germany, Greece); education staff (Denmark, Germany, Portugal); health care professionals (Belgium, Denmark, France, Netherlands, Austria, Sweden); hotel and catering professionals (Germany, France, Luxembourg, Sweden); mathematicians (Germany, Italy); physical scientists (Germany, Italy); skilled workers in construction (Ireland, Spain, France, Luxembourg, Portugal, Finland, Sweden, the UK); and workers, technicians and supervisors in the electric/electronic industry (Greece, France, Finland). Awareness of these shortages is critical for labour-market policy and assists in determining priorities for training. It is also the aim of the skill needs forecasting activity carried out by Cedefop, supported by the Skillsnet network, to provide clearer perspectives on future trends in skill supply and demand. However, Strietska-Illina also points out the continuous change in skill demands within

occupations, stressing that firms seem to attach more value to so-called soft skills than in the past: 'teamworking, interpersonal communication, initiative, creativity, entrepreneurship, leadership and management, presentation skills, ability to learn, etc.' (Cedefop, Strietska-Illina, 2008, p. 195). To remedy and prevent skill shortages, an important task for future research is to increase understanding of how these soft skills are acquired. Depending on the roles that school-based learning, the family context and social and cultural background play in their development, they may be trainable or not and, therefore, represent a challenge for policy and action.

## 2.4. Geographic mobility

The issue of geographic mobility in the EU – a fundamental principle of the Union – has recently been reviewed by Ward. It is deemed to ensure the mobility of labour and skills supply, as well as competitiveness, and to promote employment and convergence of social and living conditions. In this respect, the concept of geographic mobility primarily refers to intra EU migration. However, immigration from third countries into the EU has to be considered too, since it also affects the labour market (Cedefop, Ward, 2008).

Some 50 years after the creation of the European Community, internal mobility across Member States remains low. Data cited in Ward's study provide illustrations, as in Table 2:14 below,

Table 2:14. **Division of working-age population by nationality, 2005**

	Nationals	Non-nationals from EU-15	Other non-nationals		Nationals	Non-nationals from EU-15	Other non-nationals
BE	91.4	5.7	2.9	HU	99.3	0.1	0.6
CZ	99.3	0.0	0.7	MT	96.9	1.3	1.8
DK	96.0	1.1	3.0	NL	95.7	1.5	2.9
DE	89.5	2.8	7.7	AT	89.2	1.9	8.9
EE	81.3	0.1	18.6	PL	99.8	0.0	0.1
IE	92.3	3.0	4.7	PT	96.8	0.5	2.7
EL	93.9	0.3	5.8	SI	99.6	0.0	0.4
ES	90.2	1.2	8.6	SK	99.8	0.0	0.1
FR	94.4	1.9	3.7	FI	98.4	0.4	1.2
CY	86.5	5.8	7.7	SE	94.3	2.3	3.5
LV	99.3	0.0	0.7	UK	93.7	1.8	4.5
LT	99.4	0.0	0.6				
LU	57.9	37.6	4.5	EU-25	93.7	1.7	4.7

Source: Cedefop, Ward (2008).

Table 2:15. **Students at tertiary level studying in another EU, EEA or candidate country, 1998-2003**

EU-25	1998	1999	2000	2001	2002	2003
% studying in another country	2.0	2.2	2.2	2.2	2.1	2.2
Student inflows as % students in country	2.3	2.5	2.5	2.6	2.6	2.7

Source: Cedefop, Ward (2008).

showing that the percentage of EU nationals living in a Member State that is not their country of origin remains marginal: less than 2 % on average in 2005 for those at working-age. Another example is that less than 3 % of EU tertiary students study in another EU country each year (Table 2:15).

EU policy to encourage mobility is multifaceted. Several initiatives and programmes have been adopted to encourage and support workers' and students' mobility. Examples are EURES<sup>(18)</sup> at labour-market level; and the Bologna process for correspondence of qualifications in higher education, the lifelong learning programme (Comenius, Erasmus, Leonardo and Grundtvig), Europass, European credit system for VET and the European qualifications framework at education and training levels. Another stimulus was provided through the 2002 *Commission's action plan for skills and mobility* (European Commission, 2002b). This focused on several aspects: improving awareness of the European dimension; giving the opportunity to all students and trainees to be taught by teachers and to learn from teaching material from other Member States;

developing the learning of European languages; and increasing the opportunity for students and trainees to undertake a significant part of their education or training in another Member State. Realising these ambitions requires sustained involvement of education and training in the future development of EU internal mobility.

Education and training are also called for to deal with international migration. Data from Ward show that the annual inflow of migrants from third countries has been increasing since the 1990s (Table 2:16). The problem is that immigrants coming from third countries have the lowest level of educational attainment. Table 2:17 shows that in the EU population aged 25 to 64 years, non-nationals from third countries are overrepresented among those with lower education, while they are underrepresented among those with higher education. Lack of skills among immigrant populations is a prime reason for their disadvantaged position, hampering social inclusion. VET has a key role to play in addressing these problems, especially through social inclusion programmes (Chapter 5) (Cedefop, Ward, 2008).

Table 2:16. **Annual inflows of migrants by nationality as a percentage of total immigrants, EU-15, 1990, 1995, 2001**

	1990	1995	2001
Nationals	44.8	29.2	20.4
Non-nationals from other Member States	9.3	16.4	14.5
Other non-nationals	45.9	54.4	65.1

Source: Cedefop, Ward (2008).

<sup>(18)</sup> The European job mobility portal. Available from Internet: <http://www.europa.eu.int/eures/home.jsp?lang=en> [cited 13.11.2008].

Table 2:17. **Division of 25-64 year olds by nationality and educational attainment, EU-25, 2005**

Nationals	% of total in category	Non-nationals from EU15	% of total in category	Other non-nationals	% of total in category
Low	27.5	Low	35.0	Low	43.4
Medium	47.8	Medium	37.7	Medium	37.0
High	24.7	High	27.3	High	19.6

Source: Cedefop, Ward (2008).

## 2.5. Conclusions

Four trends in the current development of EU labour markets were considered in this chapter. First, the position of youth in the labour market is deteriorating in terms of unemployment and job quality. Youth overexposure to unemployment is increasing, while those in employment face reductions in job quality, due to an increase in involuntary temporary and part-time work. Second, comprehensive implementation of flexicurity policies is lacking. While initiatives have been taken on the flexibility side, through adopting more flexible work organisation and lowering the stringency of employment protection legislation, progress in terms of job, employment and income security is still limited. Rather, the available data suggest that insecurity is on the increase. Third, the increase in skills shortages is confirmed. Job vacancies have increased by 40 % on average in the EU between 2005 and 2008. Skills shortages vary across countries but shortages persist in many countries for certain occupational profiles: information and communication technologies specialists and, to a lesser extent, business administrators, education professionals, healthcare professionals, hotel and catering personnel, skilled workers in construction, and workers, technicians and supervisors in electric/electronic industries. The fourth trend observed is that geographic mobility policies are not reaching their aims. Recent data show that these policies are unsuccessful in significantly increasing the share of the population involved in within-EU mobility beyond the marginal threshold of 3 %.

These trends represent a challenge for education and especially for VET. Developing VET to cope with youth unemployment is a well-established issue. New challenges for VET exist in terms of contributing to job quality and career security through reinforced support to involuntary temporary and part-time workers. Preventing the young from getting trapped for years in the situation of being neither employed, nor in education nor in training also requires adequate responses from education and training.

Fostering flexicurity also calls for more VET. Flexible work organisation requires that workers be trained to acquire more competences in terms of multitasking, autonomy, decision-making and self-responsibility. In addition, VET can be an important complement to new job and employment security policies, providing training to assist workers in coping more confidently and effectively with professional transitions.

Addressing the issue of skills shortages obviously requires education and training actions, to increase the number of people possessing the required skills. As 'soft skills' seem to become more crucial, VET and education research faces the task of investigating to what extent skills such as initiative or creativity are trainable and determining what the optimal conditions are for their acquisition.

Finally, adequate policies and initiatives from education and training – including validation of non-formal and informal learning – and, in particular, VET are necessary to address the challenge of geographic mobility. Such initiatives and settings as the lifelong learning programme, Europass, the

European credit system for VET, the European qualifications framework and the action plan for skills and mobility, need to be established, further developed and enlarged to improve and assist mobility across Member States. Training actions targeted at immigrant populations from third countries are also crucial.

All these challenges require VET systems to be modernised. The rest of this report discusses in more detail how such modernisation can be achieved. The focus is on analysing trends, discussing problems and issues and deriving challenges for both policy and research.

## 3. Demographic trends and implications for VET

### 3.1. Introduction

Many European countries have recently introduced pension system reform to ensure that future societies can continue to afford their pension and healthcare systems. They aim to restrict early exit routes and increase ageing worker participation in the labour market (European Commission, 2007f). Demographic change has also had a strong impact on recent debates on the sustainability of future innovation, productivity and continued economic growth (Muenz, 2007). Several studies have assessed the consequences of population ageing from these financial and macroeconomic perspectives. There is, however, not yet a comprehensive discussion on the implications of population ageing for vocational education and training (VET). The issue of how VET should adapt to population ageing and the resulting impact on labour markets has not been granted the attention it deserves. Several questions emerge. How does population ageing impact initial VET (IVET)? Do countries that face severe population ageing invest sufficiently in continuing vocational training (CVT)? How can CVT support active ageing policies and organisational strategies? How to adapt adult education and training to an ageing population? The projected reduction in the number of young people combined with the need for CVT generate a twin challenge for VET institutions and systems, as underlined in the Helsinki communiqué (European Commission, 2006e):

- to promote the quality of IVET;
- to create conditions to improve the skills of those in the labour force through continuing vocational education and training (CVET).

This chapter discusses future demographic developments in Europe and analyses the implications of ageing for VET in the European Union (EU). The chapter has several goals: to present and analyse the demographic changes that lie ahead; to discuss the implications of population ageing for the labour market; to provide insights on the consequences this has for IVET; and to discuss how CVT can support 'active ageing' and

related policies that are needed to adapt to the new demographic situation in the coming years.

Section 2.2 examines demographic developments and the resulting impacts on employment. This will provide insight into the nature and extent of populating ageing in Member States. The implications of population ageing for VET are dealt with in Section 2.3 (IVET) and 2.4 (CVT). The final section summarises the main conclusions and indicates how VET can contribute to dealing with demographic challenges in the coming decades.

### 3.2. Population ageing and future employment trends

#### 3.2.1. Population projections

According to Eurostat's 2004 population projections (2005b, baseline scenario) the total population in EU-27 will reach its peak in 2022 (496.5 million). The growth until that year will be limited in both absolute and relative terms. Compared to 2010, the total population will have grown by only about 2.0 million (+0.4 %) over a period of 15 years. The population will then decline to 494.8 million by 2030. But while the total European population will not change substantially, its composition will. The proportion of young people (0-14 years of age) is expected to decline from 15.4 % in 2010 to 14 % in 2030. The proportion of older people (65+) in the population is projected to increase substantially: from 17.5 % in 2010 to 24.5 % in 2030. This means that by 2030, one in four Europeans will be 65 years of age or older.

Table 3:1 gives an overview of the projected demographic developments for the years 2010-30 in Member States. Bulgaria (-17 %) and Romania (-9.8 %) face the steepest decline in their populations in the coming decades. In the Baltic States, the population will decrease by 7-10 %. The Czech Republic, Hungary, Poland and Slovakia will experience population decline in the range of 3-5 %. In contrast, some of the smaller Member State populations are projected to grow in the coming

decades: Ireland, Cyprus, Luxembourg and Malta will see their populations grow at double-digit rates, mainly because of above-average future immigration (European Commission, 2007f).

The impact of population ageing can also be assessed in terms of dependency ratios, which are summary measures for the extent to which the working age population in societies is supporting

younger or older people <sup>(19)</sup>. As a result of decreases in both the number of young people and the size of the population aged 15-64, the young age dependency ratio for EU-27 is not expected to change significantly (23 in 2010; 22.7 in 2030). In contrast, the number of older people (65+) per 100 people aged 15-64 will increase dramatically in the coming decades, from 26 in 2010 to 40 in 2030.

Table 3:1. **Projected developments in total population (% change), population of working age (% change) and share of age-cohorts in population of working age (% point change) in Member States, 2010-30**

	Total population				Working age population			Share in working age population		
	0-14	15-64	65+	total	15-24	25-49	50-64	15-24	25-49	50-64
EU-27	-9.3	-7.9	40.8	0.4	-13.3	-15.0	8.8	-1.1	-4.1	5.2
BE	-2.1	-5.8	47.2	4.1	-7.9	-8.1	-0.5	-0.4	-1.3	1.7
BG	-28.7	-24.2	19.5	-17.0	-36.8	-30.2	-6.7	-3.0	-4.1	7.0
CZ	-8.8	-14.2	45.3	-4.2	-24.5	-21.7	4.9	-2.1	-4.6	6.7
DK	-7.6	-5.1	41.6	2.0	-6.9	-8.2	1.0	-0.3	-1.6	2.0
DE	-8.9	-11.1	31.9	-2.0	-18.1	-17.5	4.8	-1.3	-3.9	5.2
EE	-5.9	-14.9	15.3	-8.5	-25.5	-14.9	-6.9	-2.6	0.0	2.6
IE	-5.8	12.9	82.3	17.2	14.9	-0.9	43.0	0.3	-6.9	6.5
EL	-10.6	-5.9	31.4	0.4	-4.1	-21.5	23.6	0.3	-9.2	8.9
ES	-19.7	-4.8	45.9	1.7	2.2	-27.2	41.2	1.1	-13.8	12.7
FR	-5.1	-3.1	52.7	5.9	-1.2	-5.1	-0.8	0.4	-1.1	0.7
IT	-19.1	-9.6	30.6	-2.7	-6.9	-25.2	18.8	0.5	-9.6	9.2
CY	8.2	7.1	83.9	17.6	-17.3	10.5	20.1	-4.8	1.7	3.2
LV	-0.5	-16.6	10.4	-9.7	-29.5	-18.2	-3.4	-3.3	-1.0	4.3
LT	-8.4	-14.4	22.4	-7.6	-37.3	-13.4	3.3	-5.9	0.6	5.3
LU	15.0	10.5	61.6	18.8	8.1	5.7	21.9	-0.4	-2.4	2.8
HU	-8.4	-12.0	26.9	-5.0	-21.3	-16.5	1.3	-1.9	-2.6	4.5
MT	7.9	1.3	78.8	13.4	-8.5	8.4	-3.8	-1.9	3.5	-1.6
NL	-4.1	-3.9	59.2	5.5	-3.2	-6.6	0.6	0.1	-1.5	1.4
AT	-6.5	-5.9	45.8	3.2	-15.8	-13.0	14.8	-1.9	-4.1	6.0
PL	-7.3	-14.9	62.0	-3.4	-34.5	-11.0	-8.0	-4.7	2.3	2.4
PT	-14.7	-6.8	37.3	-0.2	-2.5	-21.4	19.8	0.8	-8.7	8.0
RO	-22.1	-13.7	20.6	-9.8	-30.8	-20.9	13.3	-4.0	-4.4	8.4
SI	-5.3	-11.7	51.2	-0.4	-16.6	-20.5	7.2	-0.9	-5.4	6.3
SK	-12.3	-12.4	63.9	-3.0	-34.7	-14.5	8.3	-5.1	-1.3	6.4
FI	-1.4	-10.3	58.7	2.8	-9.7	-6.0	-17.1	0.1	2.3	-2.5
SE	11.1	-0.9	36.5	7.9	-7.5	0.3	1.6	-1.4	0.6	0.8
UK	-2.2	-2.3	45.5	5.7	-11.6	-4.3	8.0	-1.9	-1.1	2.9

Source: Eurostat (2005b).

<sup>(19)</sup> The young age dependency ratio is defined as the number of young people (0-14 years of age) per 100 people aged 15-64. The old age dependency ratio is defined as the number of people that are 65 years or older per 100 people aged 15-64.



### 3.2.2. Developments in the population aged 15-64

The ageing of the population has important implications for both the size and the composition of the population aged 15-64 years in the EU. The total population between 15 and 64 is expected to decline from 330.1 million in 2010 to 304.5 million in 2030 (-7.9 %). Those of 15-24 years of age in the total population aged 15-64 will decline from 18 % in 2010 to 16.6 % in 2030, but the proportion of the population aged 50-64 will increase substantially: from 28.7 % in 2010 to 33.9 % in 2030. In 2030, in the population aged 15-64, one in three will be 50+.

From Table 3:1, it can be inferred that in most Member States, the population aged 15-24 will decline in the coming decades. In some countries the projected reduction will be substantial. In many eastern European countries, in 2030, the population aged 15-24 will only be about two-thirds of the young-age working population in 2010. Seven Member States will experience a decline in their 15-24 population of 15-25 %. In only three countries is an increase in the population aged 15-24 projected: Ireland (14.9 %), Luxembourg (8.1 %) and Spain (2.2 %).

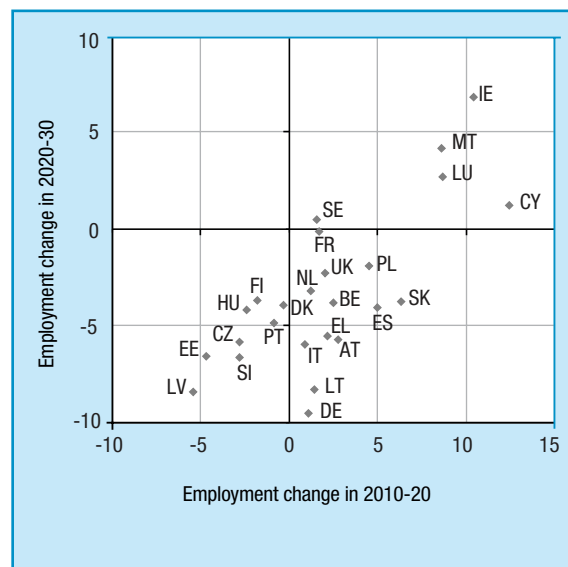
### 3.2.3. Future trends in labour force and employment <sup>(20)</sup>

Projected demographic developments and increasing labour force participation rates will lead to a growing labour force and an increase in employment in EU-27 in the coming years. Both are expected to reach their maximum around 2015. In that year, 242 million Europeans will be in the labour force and 226 million people will be employed. From 2015 onwards, both the labour force and the employed population will decline. In 2020, the size of the labour force will be close to its level in 2010 (240 million); in the years 2020-30, the labour force is projected to shrink to less than 230 million. The level of employment follows the developments in the labour force, but the increase in employment in 2010-15 is steeper than the increase in the labour force, while the employment decline in subsequent years is less pronounced than the reduction in the labour force. This reflects increases

in employment rates, notably for the older age cohorts. Employment in EU-27 will be at its 2010 level around 2025 (around 221 million). In 2030, 214.5 million Europeans will be employed.

Figure 3:1 gives an overview of projected employment developments during 2010-20 and 2020-30 in the Member States. In a sizeable majority of Member States, employment is expected to grow during 2010-20. Employment decline is projected for most Member States in the decade that follows.

Figure 3:1. **Projected employment change (in %) in Member States, 2010-20 and 2020-30**



Note: No employment trends are available for Bulgaria and Romania, as there are no employment rate forecasts for these Member States.  
Source: Eurostat (2005b) and Carone (2005).

For the EU as a whole, employment will reach its maximum around 2015. Member States differences in demographic developments and projected increases in employment rates mean that individual countries will reach maximum employment in different years. Table 3:2 illustrates what impacts these differences exert on employment trends.

Background analyses show that demographic ageing is the most important force driving employment decline. In 20 of the 25 Member States examined, the year that employment reaches its maximum coincides with the year that

<sup>(20)</sup> These trends are based on two sources: Eurostat's 2004 baseline population projections (2005) and Carone's (2005) study on the impact of population ageing on the sustainability of public pension systems. For underlying assumptions, see these sources and Economic Policy Committee and European Commission (2006) and Burniaux et al. (2003).

Table 3:2. **Year in which employment will reach its maximum in Member States, 2010-30**

Year	Member State
2010 or earlier	DK
2011	CZ, EE, SI, FI
2012	LV, HU
2013	
2014	
2015	DE, EL, FR, IT, LT
2016	
2017	BE
2018	
2019	NL, AT, UK
2020	ES, SK
2021	
2022	
2023	
2024	
2025	PL
2026	
2027	
2028	SE
2029	
2030 or later	IE, CY, LU, MT

Note: No employment maxima are available for Bulgaria and Romania, as there are no employment rate forecasts for these countries.

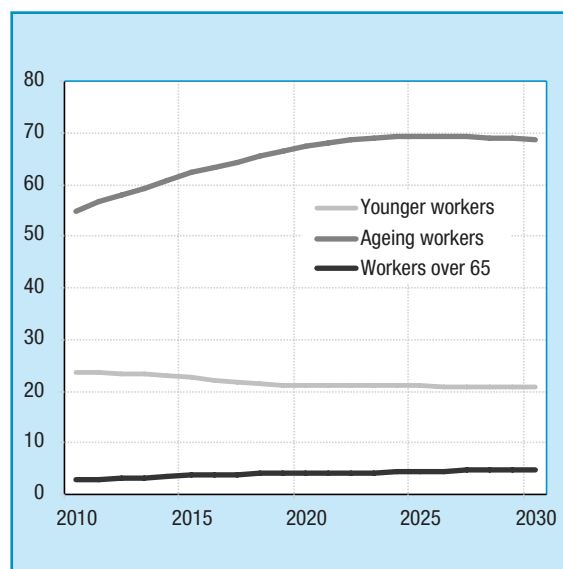
Source: Eurostat (2005b) and Carone (2005).

the labour-force peaks. Increases in employment rates and/or declines in the unemployment rate are able to sustain employment growth a year beyond the peak in the labour force in Italy, Lithuania and Finland. Poland and Slovakia are exceptional cases. In Poland, the labour force peaks in 2012, but employment reaches its maximum in 2025 (13 years later). In Slovakia, employment grows until 2020, while the labour force reaches its maximum five years earlier, in 2015. In both countries, strong increases in employment rates and an unemployment rate that will decline to reach half of its 2010 level in 2030 enable sustained employment growth despite population ageing.

### 3.2.3.1. Changes in the age composition of employment

Figure 3:2 shows that the number of younger workers (15-24 years of age) is projected to decline from approximately 24 million in 2010 to less than

Figure 3:2. **Younger (15-24), ageing (50-64) workers and workers over 65 in EU-27 (millions), 2010-30**



Note: Employment is based on employment rates for EU-25, thus excluding Bulgaria and Romania. Workers over 65 do not include people over 71 years of age, as employment rate projections are not available for this age group.

Source: Eurostat (2005b) and Carone (2005).

21 million in 2030. At the same time, employment for ageing workers (50-64 years of age) is expected to increase substantially, from 55 million in 2010 to almost 70 million in 2030 (+25%). These changes in the age structure of employment reflect several developments. Population ageing implies that the number of labour-market entrants is decreasing, while the size of the group of ageing workers is increasing. Education progression (higher levels of initial attainment) reinforces the trend of fewer younger workers: as young people spend more time in education, employment for younger age cohorts will decrease (see also Coomans, 2005). Finally, along with employment increases due to demographic trends, employment of ageing workers rises due to higher participation and employment rates (OECD, 2006c, p. 47).

The available data also allows examination of the number of employed workers over 64. Several developments, such as increases in retirement age and some professionals and the self-employed delaying labour market exit, imply that old-age employment will be an increasingly relevant phenomenon in the coming decades. In 2010, 2.8 million workers, or about 1.3% of the employed

will be 65 years of age or older. The number of old age workers will increase substantially in the coming decades. By 2020, more than four million workers (1.8 % of all workers) will be 65 years of age or older; in 2030, old age employment will be 4.9 million (2.2 % of the employed population).

Table 3:3 shows for each Member State the projected percentage change in the number of younger workers (15-24 years of age), ageing workers (50-64 years of age) and workers aged 65 or older.

### 3.2.4. Conclusions

While the total population in the EU-27 does not change significantly until 2030, the proportion of people aged under 65 will be decreasing, while the old-age population (65+) will increase significantly. At EU-27 level, until 2030, the population aged 15-24 and the population aged 25-49 will decline, while the number of people aged 50-64 will increase, but there are significant differences between countries. Most eastern

Table 3:3. **Percentage change in the number of younger workers (15-24), ageing workers (50-64) and workers aged 65 or older in Member States, 2010-30**

	Younger workers (15-24)	Ageing workers (50-64)	Workers 65 and older
EU-27	-12.3	24.9	69.1
BE	-6.2	15.0	81.8
BG	NA	NA	NA
CZ	-28.6	27.0	49.3
DK	-4.7	3.2	22.8
DE	-19.6	11.3	76.7
EE	-36.0	2.5	28.9
IE	12.5	68.9	96.4
EL	1.0	41.7	52.5
ES	8.2	79.6	109.0
FR	1.5	11.9	125.6
IT	-1.2	51.8	80.1
CY	-23.4	32.0	67.3
LV	-40.0	5.0	26.6
LT	-44.1	16.1	52.2
LU	11.5	25.6	98.3
HU	-24.0	23.3	47.8
MT	-10.1	18.1	47.4
NL	-2.6	5.4	57.3
AT	-16.1	31.2	107.1
PL	-28.0	19.7	98.1
PT	-3.0	34.5	49.2
RO	NA	NA	NA
SI	-26.6	29.1	142.8
SK	-27.3	38.4	87.4
FI	-9.2	-7.4	96.4
SE	-7.5	6.1	15.3
UK	-13.4	13.6	46.9

Note: No data are available for Bulgaria and Romania, as there are no employment rate forecasts for these countries. Workers over 65 do not include people over 71 years of age, as employment rate projections are not available for this age group.

Source: Eurostat (2005b) and Carone (2005).

European countries face strong declines in their population aged 15-24, and moderate increases or even decreases in the population aged 50-64. In most southern European countries, however, the projected changes of the population aged 15-24 are limited while the population aged 50-64 increases substantially.

Projections show that, in most Member States, total employment will increase during 2010-20 and decline thereafter. In contrast, Ireland, Cyprus, Luxembourg and Malta will experience continued employment growth in both decades. Continued employment decline during 2010-30 is projected for most countries of eastern Europe, Denmark and Finland. Examining employment by age group reveals additional differences between countries. The number of younger workers (15-24) will decline most substantially in the Czech Republic, Germany, Estonia, Cyprus, Latvia, Lithuania, Hungary, Austria, Poland, Slovenia and Slovakia<sup>(21)</sup>. In Ireland, Spain and Luxembourg, young worker employment will increase by around 10 %. The expansion of ageing worker (50-64) employment will be most pronounced in Ireland, Greece, Spain and Italy. Although the absolute number of workers aged 65 or older remains limited, it is clearly on the increase. Old age employment is expected to more than double in Spain, France, Austria and Slovenia in the coming decades.

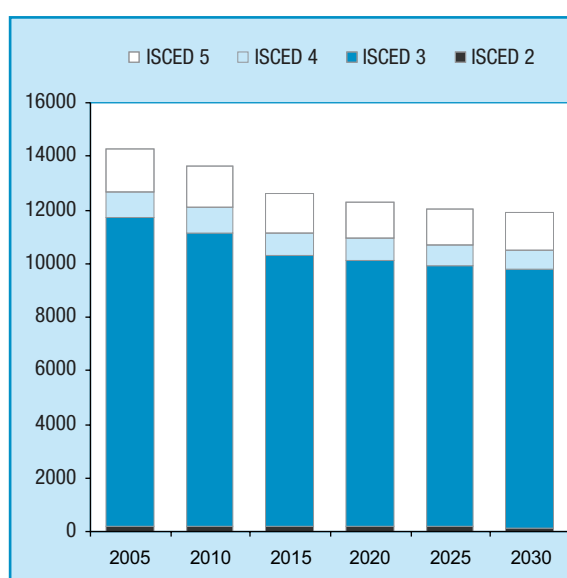
### 3.3. Population ageing and IVET

In this section we examine the implications of population ageing for IVET. The main source is a Cedefop (2009b) study that addresses the question of how population ageing impacts IVET from a quantitative perspective. We examine future trends in the number of students and graduates and possible impacts on the labour market. Subsequently, we reflect on the trends in the required IVET teaching staff in the coming decades.

#### 3.3.1. Students and graduates

The Cedefop (2009b) study uses Eurostat's 2004 baseline population projection (2005b) to examine the links between demographic developments and participation in initial prevocational and vocational education and training<sup>(22)</sup>. Figure 3:3 gives an

Figure 3:3. **Projected number of students ('000) aged 15-24 in prevocational and vocational education and training by ISCED in EU-27, 2005-30**



Source: Cedefop (2009b), baseline population variant, constant educational participation.

overview of the projected number of students by ISCED level (see Box 3:1 for a description of the projection method).

Demographic developments cause the total number of students in IVET (either prevocational or vocational) to decline from 14.2 million students in 2005 to 11.9 million in 2030. In absolute terms, the decrease is strongest for students enrolling in VET at ISCED 3 level: between 2005 and 2030, the number of students in this level of VET is projected to decline by almost 2 million (-17.6 %).

<sup>(21)</sup> These declines are induced by two trends: smaller young-age cohorts as a result of population ageing and lower employment rates due to education progression. Some eastern European countries in particular are 'catching up' in terms of education participation, leading to lower employment rates.

<sup>(22)</sup> This study investigates the links between demographic change and IVET assuming that other factors impacting future the number of IVET students and graduates, such as for instance personal preferences, the impact of parents on educational choice and the governance and steering of VET systems, remain unchanged. This implies that participation and graduation rates are kept constant. Several of these assumptions are addressed in other chapters of this report.

## Box 3:1. Projecting the number of students and graduates in IVET

Cedefop (2009b) uses the participation ratio method to project the number of students and graduates in IVET. This approach uses current and historical data to construct participation ratios, which are proportions of the population, stratified by age and gender for geographical areas. These ratios are combined with independent projections of population stratified by age and gender to arrive at projections for the number of students in IVET. Similarly, current and historical data are used to project future graduation rates. The combination of graduation rates with the projected number of students in IVET yields a projection of the future number of IVET graduates. Two central assumptions have been made in projecting the number of students and graduates in IVET in the coming decades:

- the observed education participation rates (averaged over 1998-2004) by age, gender, ISCED and programme orientation are kept constant over the whole projection period.

Source: Cedefop (2009b), baseline population variant, constant educational participation.

Table 3:4. Projected number of students and graduates ('000) in prevocational and vocational education and training (ISCED 2-5) in Member States, 2005-30

	Students				Graduates			
	2005	2010	2020	2030	2005	2010	2020	2030
EU-27	14 247	13 623	12 295	11 890	3 661	3 518	3 157	3 054
BE	522	535	504	489	91	94	80	78
BG	199	157	120	108	37	31	22	20
CZ	441	411	307	318	113	105	78	81
DK	108	123	126	111	23	24	28	25
DE	2 344	2 287	2 000	1 866	639	630	549	511
EE	40	35	23	26	9	8	5	6
IE	100	91	99	107	32	29	33	34
EL	312	278	259	270	48	44	41	42
ES	585	534	533	552	177	162	161	167
FR	1 907	1 846	1 921	1 836	687	664	692	661
IT	1 331	1 319	1 309	1 186	246	248	237	225
CY	18	17	14	14	4	4	3	3
LV	53	45	27	33	12	10	6	8
LT	74	70	45	43	18	18	11	11
LU	13	15	15	16	2	3	3	3
HU	194	185	146	146	64	62	48	48
MT	7	7	5	6	2	2	1	2
NL	510	535	552	501	114	120	124	113
AT	320	330	283	273	91	94	80	78
PL	1 220	1 042	723	720	344	292	200	190
PT	100	93	93	91	15	14	14	14
RO	725	550	446	430	202	162	124	121
SI	105	90	75	79	18	15	13	14
SK	224	198	138	137	59	53	36	35
FI	144	149	132	133	30	31	28	28
SE	233	261	214	233	45	53	41	46
UK	2 420	2 420	2 184	2 165	532	537	481	477

Source: Cedefop (2009b), baseline population variant, constant educational participation and graduation rates.

The number of students in initial prevocational and vocational education and training at ISCED 2 is expected to remain relatively stable, while the number of students in IVET at ISCED 4 will decline by almost a quarter. Participation trends in IVET at ISCED 2 and 4 are, however, dominated by a few European countries and do not, therefore, reflect Europe-wide developments. The number of students in IVET at ISCED 5 is declining from 1.6 million in 2005 to 1.4 million in 2030 (-12 %).

Table 3:4 presents the projected number of students and graduates in prevocational and vocational education and training in Member States. In most countries, the number of students in IVET is projected to decrease during both 2010-20 and 2020-30, but the decline is more pronounced between 2010-20 than 2020-30. In Denmark, France and the Netherlands, however, the number of students enrolled in IVET is projected to grow during 2010-20 and decline in the decade that follows. Some Member States face drastic declines in the number of students enrolled in IVET in the coming years. Decreasing young-age populations in the Baltic States imply that the number of IVET students will shrink by 35-40 % between 2010 and 2020. Various countries in eastern Europe (Bulgaria, the Czech Republic, Poland and Slovakia) will also experience large declines in the number of students enrolled in prevocational and vocational education and training.

The projection of the number of IVET graduates mirrors the trends in student participation in IVET. At EU-27 level, the number of graduates from prevocational and vocational education and training at ISCED 3-5 is projected to decrease from 3.7 million in 2005 to 3.1 million in 2030, which constitutes a decline of more than 16 %. In 2010-20 the number of IVET graduates will decline severely in the Baltic States and in several countries of eastern Europe.

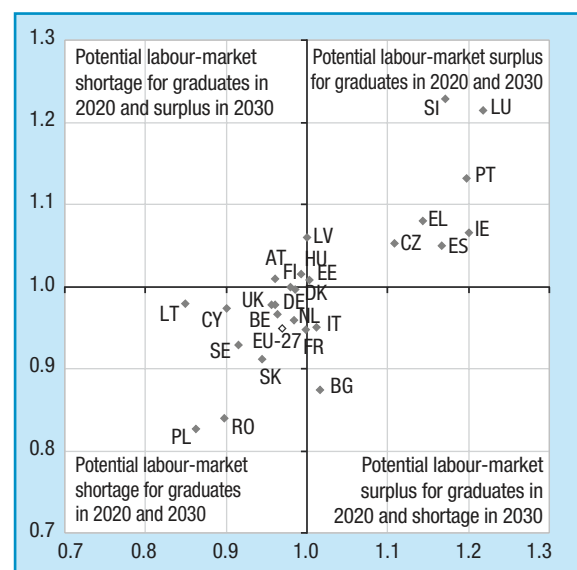
Cedefop (2009b) also provides insights into the participation in IVET required to keep the number of students (and graduates) constant. Assuming constant graduation rates, a substantial increase would be required; overall, the participation would have to increase from 24.1 % in 2005 to 27.7 % in 2030. For IVET at levels 3 and 5, participation rates

would have to increase by 15 % to offset the negative impacts of the decline in the young-age population. For ISCED 3, this would mean a substantial shift from general to vocational streams.

### 3.3.2. Possible labour market impacts

The projected decline in the number of IVET students and graduates does not only have implications for IVET schools, institutions, systems and policies, but also impacts on labour markets. To foresee whether future labour-market shortages or surpluses will occur, Cedefop (2009b) combines projections of the number of IVET graduates with expected employment trends for younger (15-24) workers. Comparing standardised trends in the number of VET graduates and employment gives an indication of possible future imbalances in the labour market. This should be interpreted with caution, however, as it is assumed that the ratio of the demand for VET graduates to total demand for labour will remain constant and that IVET participants entering the labour market without a diploma cannot substitute for IVET graduates in times of labour-market shortages.

Figure 3:4. **Ratio between number of IVET graduates and employment in 2020 (horizontal axis) and 2030 (vertical axis), 2005=1**



Source: Cedefop (2009b), additional calculations.

<sup>(23)</sup> When the index is smaller than 1, there is a potential labour-market shortage for graduates; an index greater than 1 indicates a potential labour-market surplus for graduates.

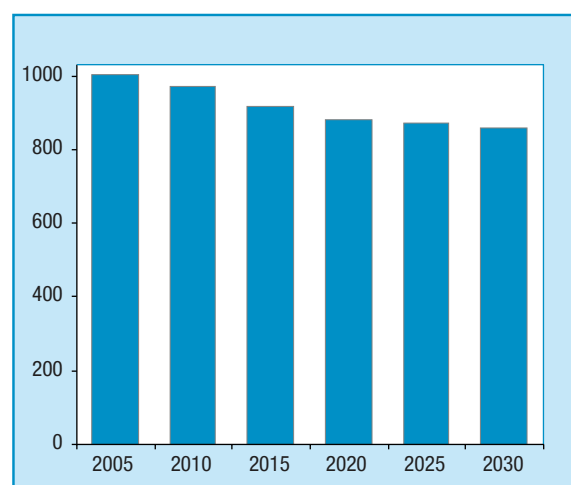
<sup>(24)</sup> See also Box 8:1

Figure 3:4 gives an overview of possible labour shortages and surpluses by presenting the ratio between the standardised number of IVET graduates (2005=100) and standardised employment for younger workers (2005=100) for 2020 (horizontal axis) and 2030 (vertical axis) <sup>(23)</sup>. Potential labour-market shortages for both 2020 and 2030 are projected for the EU as a whole and 11 Member States individually. The potential shortage is most pronounced in Poland, Romania, Slovakia and Sweden. In the Czech Republic, Ireland, Greece, Spain, Luxembourg, Portugal and Slovenia both in 2020 and 2030, labour-market surpluses might occur. Only a few Member States go from a potential surplus in 2020 to a potential shortage in 2030 or vice versa.

### 3.3.3. Required IVET teaching staff

Along with other factors that determine demand for IVET teachers and trainers, changes in the number of IVET students also have an impact <sup>(24)</sup>. There are, however, no reliable demand projections available but, by making restrictive assumptions, it is possible to gain some insight into future developments in the employment of IVET teaching staff. As information on the current number of employed teachers and trainers specifically in VET is limited, and not available at all ISCED levels, two simplifications have to be adopted. First, recognising

Figure 3:5. **Projected number of required teaching staff (full-time units '000) in (pre) vocational education at ISCED 3 in EU-27, 2005-30**



Source: Cedefop (2009b), baseline population variant, constant educational participation rates, constant student/teacher ratios.

that ISCED 3 is the most important for VET, the projections focus on VET at this level. Second, it is assumed that average student/teacher ratios are similar for both general and (pre) vocational streams and that these ratios remain constant in

### Box 3:2. Qualitative impacts of population ageing on IVET

Population ageing also impacts on IVET in a more qualitative sense. For example, a growing old-age population increases the demand for health and care-related services. To assess whether the number of IVET graduates in health- and care-related fields meet the demands of the labour market, we combine the projections of the Cedefop (2009b) study on population ageing and IVET with skill needs forecasts by occupation until 2015 (Cedefop, 2008b) for EU-25+ <sup>(a)</sup>. While the projected number of IVET students graduating from health and welfare educational fields is projected to decline between 2006 and 2015, the projected demand (expansion and replacement) for life science and health professionals and associate professionals (ISCO groups 22 and 32) will be increasing. Although these groups are only comparable to a limited extent this finding indicates that future labour-market shortages for health- and care-related services might occur <sup>(b)</sup>.

<sup>(a)</sup> EU-25+ refers to Member States as of December 2006 plus Norway and Switzerland.

<sup>(b)</sup> The limited comparability is, for instance, caused by the rough clustering of occupations in projected demand and the existence of substitution possibilities for IVET graduates to find employment outside of health- and care-related services.

the future. Taking these assumptions into account, the number of teachers and trainers required (in full time units) in IVET follows the pattern in Figure 3:5.

For the EU as a whole, the number of required teaching staff in IVET at ISCED 3 is projected to decline from just over a million in 2005 to 858 000 in 2030, a decrease of almost 15 % (see Chapter 8 for a more extensive discussion of teachers and trainers in VET and changes affecting the profession).

### 3.3.4. Conclusions

Population ageing will lead to substantial reductions in the number of IVET students and graduates entering the labour market. At ISCED 3 alone, between 2005 and 2030 the number of students

participating in IVET is expected to decline by almost two million. While some western European countries will still see an increase until 2020, drastic reductions in the number of IVET students are expected in eastern Europe and the Baltic States. The projected decline in IVET student populations and graduates entering the labour market not only impacts on IVET itself, but may also cause imbalances on labour markets. In the coming decades, pronounced labour-market shortages could occur in Poland, Romania, Sweden and Slovakia. By making restrictive assumptions, the impact of population ageing on the employment of IVET teachers and trainers can be examined. For the EU as a whole, until 2030, the number of required teaching staff at ISCED 3 is expected to decline by almost 15 %.

It is important to recognise that demographic change does not only imply risks and threats, but also opens up opportunities to invest in VET quality. Cost savings resulting from lower enrolment in VET can be used to improve student teacher ratios and reduce classroom size and enable better targeting of students from disadvantaged groups.

### 3.4. Population ageing and CVT active ageing policies

Tikkanen examines how the discussion on active ageing and lifelong learning for ageing workers has developed (Cedefop, Tikkanen, 2009). Four different periods can be distinguished. Early discussions on ageing workers (1950-80) mostly focused on the crisis and shock of adjusting to retirement. The 1980s marked the decade of early pension policies, in which ageing workers' early exit from working life was seen as an inter-generational deal to make room for younger workers and address the economic downturn and high unemployment. In the 1990s, the trends of population and workforce ageing raised concerns about the socioeconomic consequences of massive early labour-market exit. Occupational health and pension reforms became key elements

in the efforts of many industrialised societies to keep ageing workers in working life until statutory retirement age. More recently, the discussion on ageing in working life has taken a more holistic approach to the concern of ageing workers. Key messages are the promotion of active ageing and citizenship in working life and beyond; measures are taken to extend ageing workers' contribution to working life. But active ageing remains a significant challenge for many Member States. For half of the new Member States, and about 80 % of their workforce, active ageing is an unknown concept and a very distant goal (Ilmarinen, 2006, p. 51).

Europe faces a growing imbalance in the age distribution of its working populations and the employment of ageing workers; older people who work beyond current retirement age will be on the increase. Most current studies and reports tend to analyse the consequences of population ageing from the perspective of pension and healthcare system sustainability but ageing also raises some important challenges for CVET. CVET plays a key role in active aging, as it supports sustainable labour-market participation and enables longer working lives (OECD, 2006c, p. 74-75).

In this section, we first analyse to what extent ageing workers participate in CVT and whether Member States that face severe population ageing invest more in CVT for aging workers. Secondly, we discuss the relationships between age and work performance and reflect on the consequences this should have for CVT. In the final subsection, we examine how CVT can adopt age-friendly learning methods and how organisational strategies and public policies can aid active ageing societies.

#### 3.4.1. Participation in CVT and population ageing

The latest available data on the participation in CVT (Table 3:5) show that there are substantial differences by age group and that participation patterns vary widely by country <sup>(25)</sup>. At EU level, a third of workers participate in employer-provided CVT courses but only 24 % of ageing workers (55 years and over) do so. For individual Member States, overall participation ranges from 14 %

<sup>(25)</sup> Data come from the third continuing vocational training survey (CVTS3) and concern participation in CVT of active people in private enterprises (both training and non-training enterprises) with 10 or more employees. This implies that public sector employees, people working in small enterprises, the unemployed as well as inactive people are not covered. It should also be noted that providing CVT is only one of the ways of developing skills and knowledge in employment. Other types of learning taking place in enterprises, such as informal learning, are not considered.

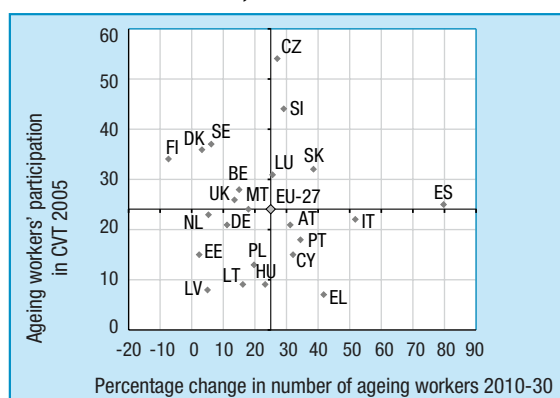


in Greece to 59 % in the Czech Republic. In all countries except Denmark, participation in CVT for ageing workers is lower than the participation in CVT for those aged 25-54.

To assess whether a relationship exists between future population ageing and current participation in employer-provided CVT courses, Figure 3:6 compares the future increase in the number of ageing workers with participation in CVET.

The available data do not suggest a clear relationship between future ageing and current ageing worker participation in CVT. However, some clusters of countries can be distinguished. In countries in southern Europe (Greece, Spain, Italy, Portugal and Cyprus) a substantial increase in the number of ageing workers is accompanied by low CVT participation for ageing workers. In the Czech Republic, Slovenia and Slovakia we see a combination of above-average increases

Figure 3:6. **Percentage change in the number of ageing workers (50-64), 2010-30 and participation rate in employer-provided CVT courses for ageing workers, 2005**



Note: Data are not available for all Member States.  
Sources: Eurostat (2005a, 2005b), Carone (2005).

Table 3:5. **Percentage of employees participating in CVT courses by age group**

	Total	Less than 25	25-54	55+
EU-27	33	29	33	24
BE	40	35	41	28
BG	15	15	16	8
CZ	59	54	60	54
DK	35	29	35	36
DE	30	25	32	21
EE	24	25	26	15
EL	14	13	14	7
ES	33	30	35	25
IT	29	22	30	22
CY	30	22	31	15
LV	15	16	15	8
LT	15	17	15	9
LU	49	42	51	31
HU	16	12	17	9
MT	32	29	34	24
NL	34	26	38	23
AT	33	36	34	21
PL	21	16	22	13
PT	28	26	29	18
RO	17	17	18	12
SI	50	54	51	44
SK	38	32	40	32
FI	39	25	43	34
SE	46	39	50	37
UK	33	34	34	26

Source: Eurostat, 2005a.

in ageing worker employment with substantial ageing worker participation in CVT. In some of the Nordic Member States (Denmark, Finland, Sweden), more than a third of ageing workers participate in CVT despite limited future increases in the number of ageing workers.

### 3.4.2. Age, work performance and CVT

To examine the role CVT could play in dealing with population ageing, it is useful to assess the relationship between age and overall work performance. Although there are stereotypes about the performance of ageing workers, there is actually little evidence to support the myth of the costly and unproductive ageing worker. In general, information on ageing and overall work performance is limited, especially for technology-based jobs,

and the available information is at least partly contradictory. A review of available evidence is presented in Table 3:6.

In general, what can be concluded from empirical research is that there is no single relationship between age and overall work performance; the average relationship is around zero and those positive or negative age-patterns which are reported are quite small. The idea that, overall, there is no negative association between age and overall work performance is confirmed by economic research on the relationships between age and productivity. The fear that population ageing will lead to less innovation, slower adoption of new technologies and less long-term investment in education and R&D is not supported by empirical evidence. Macroeconomic simulations show that,

Table 3:6. **Summary of findings regarding ageing and overall work performance**

Findings	Job type method	Authors
Age-related decline in performance	Computer-based work tasks (data entry, database inquiry, accounts balancing)	Czaja and Sharit (1993, 1998)
No age-related decline	Manufacturing	Giniger et al. (1983)
Results varied according to type of performance measure and job type; age accounted for only small degree of variance	Meta-analysis of 65 samples	McEvoy and Cascio (1989)
Minimal age difference in primary flight tasks; age decrement in Air traffic control communication	Simulated flight performance	Morrow et al. (1991, 1993)
Age decrements in performance	Vigilance task	Parasuraman and Giambra (1991)
Equal evidence that job performance increased with age, decreased with age, not related to age	Comprehensive literature review	Rhodes (1983)
Age differences in numbers of decision, decision strategies and less optimal use of information	Management performance	Streufert et al. (1990)
No age-related decline	Office workers	US Administration on Aging (1984)
Results varied according to type of performance measure and job type; age accounted for only small degree of variance	Meta-analysis of 40 samples	Waldman and Avolio (1986)
No age-related declines	Meta-analysis of more than 100 research studies	Warr (1994)

Source: Czaja (2001, p. 551)

if there is any impact of ageing on productivity, it is most likely to be very limited; micro-studies on productivity show that the small decline in some cognitive abilities that takes place when a worker ages is compensated by positive experience effects (European Commission, 2007f; OECD, 2006c).

The fact that age has little or no impact on overall job performance does not mean that there is no age-variation in certain components of job performance. Box 3:3 presents a taxonomy of four different job activities that enable study of age-related differences in performance according to two dimensions: a decline in basic capacities and a gain through age-related experience (Warr, 1994: p. 311).

#### 3.4.2.1. Implications for CVT

The changing views on older people about their participation in the labour market, in lifelong learning and in VET, are largely driven by new conceptions on adulthood and ageing. As research does not show clear associations between ageing and overall work performance (see the discussion

above), age in the context of work is first and foremost a social construct. Partly as a result of new views on age and work, the scope of VET has developed from a primary focus on education at young age to a perspective in which education and training also plays a key role in working life. The political reality, however, is that most current discussions on lifelong learning for adults focus on improving employability until mid-age, not old-age. This implies that current lifelong learning practice is not in line with the reality of substantial population ageing projected for the coming decades.

Many efforts have been made in reviewing financial aspects (e.g. pension provisions, increasing the retirement age to receive a pension) to raise ageing people's labour-market participation, while far less attention has been given to creating appropriate employment opportunities and the right working, employment and learning conditions to encourage ageing workers to participate actively in the labour market and society. However, various studies (Haider and Loughran, 2001; Taylor, 2001) show that financial incentives and social security regulations are only one determinant

Box 3:3. Different types of activities and their relation to age

Activity category	Task requirements exceed basic capacities with increasing age	Performance can be enhanced by relevant experience	Expected relationship with age
Age-enhanced activities	No	Yes	Positive
Age-impaired activities	Yes	No	Negative
Age-counteracted activities	Yes	Yes	Zero
Age-neutral activities	No	no	Zero

Age-enhanced activities remain within basic capacities despite advancing age, with performance benefiting from experience. Some types of cognitive functioning improve with age during the working years (Berg and Sternberg, 1985). This relates to activities embedded in familiar settings and operations and is often referred to as 'crystallised intelligence' (Cattell, 1971; Horn, 1970) and/or 'selective expertise' (Salthouse, 1985).

Age-impaired activities are those that have a negative relationship with age as they are high-demanding tasks including continuous rapid information-processing and/or strenuous physical activity. Tasks dealing with sensory processes of visual and auditory functioning, with motor activity or muscular strength have a negative relationship with age (Verillo and Verillo, 1985) and relate to 'fluid intelligence'. When dealing with new and complex situations, ageing workers tend to perform less well than younger counterparts. Research shows that complex sequences of processing steps are likely to be intractable for many ageing workers (Poon, 1985; Warr, 1994).

Age-counteracted activities relate to tasks for which ageing workers face increased difficulty in some areas (e.g. due to a decline in information processing) but they are able to compensate for that. Examples of this include taking written notes to compensate for possible memory limitations and behavioural accommodation, in which older workers alter their own activities to avoid challenging situations. In addition, ageing workers profit from 'cognitive compilation', benefiting from their expertise.

Age-neutral activities relate to situations where work is routine and non-problematic and requires firmly established skills that can be used automatically. Because these activities are relatively undemanding, the memory requirements are limited and older workers are as able as their younger counterparts (Warr, 1994).

among many in stimulating ageing workers' labour-market participation. Moreover, non-pecuniary factors seem to play at least as important a role as monetary incentives in the decision to remain in or to return to the labour market. Policies to limit labour-market exit at mid-age should, therefore, have a dual focus. First, they have to remove barriers preventing older people from successfully engaging in working longer, and provide better and more appropriate employment opportunities for ageing workers. Second, ageing worker employability has to be addressed, focusing on long-term employability and opportunities to acquire skills and competences. As it has become clear that the work-life balance is an important factor in job satisfaction and the planning of ageing staff's careers in particular, employers must consider the overall pattern of their ageing workers' wishes, expectations and experiences. An important mechanism for this is flexible work arrangements including part-time work, self-employment, and, especially, flexible working hours.

#### 3.4.3. CVT-supported active ageing societies

In societies facing severe population ageing and changing conceptions on ageing and work, CVT has a key role to play in supporting longer working lives by:

- (a) adjusting systems and processes to adopt a comprehensive life-span and career perspective on learning and work;
- (b) providing cross-disciplinary basic knowledge, improving problem-solving skills and assessing the need for social-communicative skills for ageing workers (Baethge et al., 2006)
- (c) focusing on skill needs specific to ageing workers, aiding career mobility at mature age and supporting flexible work arrangements.

However, not only CVT itself, but also supportive conditions in various dimensions of delivery methods and context are instrumental in realising active ageing societies. There are three levels on which efforts can be made to improve access of ageing persons to CVT and consequent impact on employability and sustained labour-market participation. These are:

- (a) learning methods in relation to learning outcomes for older people;
- (b) organisational policies and initiatives that focus

- on employed older persons;
- (c) public policies and initiatives for employed, unemployed and inactive older individuals.

##### 3.4.3.1. *Adapting learning to mature learners*

The way in which learning is provided is an important factor determining learning ability and success. Educational research argues that teaching adults (andragogy) is qualitatively different from teaching younger persons (pedagogy) and thus specific learning methods are required for older people. The use of inappropriate training methods may hamper ageing workers' competence development. However, in practice, there has been little attention paid to developing training methods that can be applied in work settings specifically for ageing workers. Nevertheless, research (Czaja, 2001; Warr, 1994) has shown that there are three types of learning methods that aim at improving the learning performance of ageing workers and that seem to be appropriate to their learning needs:

- (a) the discovery method: aims at increasing motivation by allowing the individual to discover for himself how things work;
- (b) activity learning: emphasises the need for active manipulation and processing of material to be learned (such as role playing, group work) as opposed to engaging in passive forms of learning such as listening or observing;
- (c) programmed instruction: includes learning material that is systematically structured in different grades of difficulty and that indicates the individual progress.

Overall, while it is evident that older people need different training methods from the ones used for younger workers, it remains unclear what works for whom. Although some effort has been made to develop new theories on ageing workers' and older people's learning behaviour, these theories have not been tested sufficiently through empirical research (and preferably in real life learning settings). New insights on the relationships between ageing and work and the role that specific andragogical learning approaches play can be an important element in making CVT more responsive to ageing workers' needs.

##### 3.4.3.2. *Organisational policies and initiatives*

Organisational policies have a considerable impact

on ageing workers' performance. However, while information on innovative workplace practices and their implementation is abundant and some casual evidence exists regarding the role of ageing managers and politicians, comprehensive research on the involvement and participation of ageing workers in supporting change is scarce (Cedefop, Tikkanen, 2009). Active ageing policies within organisations should be multidimensional in scope and nature. First, taking a life-span perspective implies that organisations should not only focus their development activities on ageing workers themselves, but rather develop a culture that encourages learning and performance for employees of all ages. Second, when age-related stereotypes exist, organisations should target managerial staff with awareness raising campaigns to increase understanding on the ageing process to counteract discrimination as well as to support fairer performance rating processes <sup>(26)</sup>. Third, measures such as job or task rotation can be used to provide ageing workers with opportunities to develop new knowledge and skills and to enhance motivation and organisational participation. Such measures can also promote intergenerational learning, increase the awareness of the skills possessed by more experienced employees and open up possibilities for ageing workers to mentor or coach their younger colleagues. Finally, early career planning programmes can avoid skills obsolescence and increase employee commitment, productivity and mobility. These four elements imply that CVT can contribute to successful active ageing in organisations in various ways. The emerging life-span and career perspective to age and work can, for example, be addressed by focusing more on the interactions and interconnections between working and learning, instead of the more traditional approach where CVT is mostly seen as an instrument to transfer skills. Increasing motivation and organisational participation requires that CVT considers the voice of ageing employees themselves at all stages. Cedefop, Tikkanen and Nyhan (2006) shows that this is often not a reality: when ageing has been addressed at organisational level, the voice and views of employers and management have been dominant.

#### 3.4.3.3. *The role of public policy*

Public policies play a major role in supporting active ageing by providing the right mix of incentives in pension systems, by reforming employment practices to facilitate the retention and hiring of ageing workers and by promoting employability (OECD, 2006c). Most efforts to date have focused on pension systems and early retirement schemes. If longer working lives are to be made rewarding and satisfying for ageing workers, however, a comprehensive approach supported by all stakeholders is needed. Policies aimed at stimulating CVT participation targeted towards older adults are instrumental in this context.

It is obvious that appropriate policy intervention requires a sound understanding of what kind of obstacles prevent ageing individuals from labour market and training participation, how these obstacles interact with organisational policies restricting access to and participation in CVT, and the links between different types of obstacles. For example, the attitudes of ageing workers can work against their participation in CVT because of:

- (a) fears about their ability to cope with an education and training programme;
- (b) the view that additional education and training will have no or only little impact on future job prospects or their employment conditions (e.g. salary, job position, career outlook);
- (c) little perceived value of CVT given the intention to leave the labour market and to retire in the near future.

Public policies should also address several myths about the capacities of ageing workers and the way the labour market works. First, policies need to dispel the notion that fewer jobs for older workers imply more jobs for younger workers, as this is based on simplistic and incorrect notions of labour-market functioning and not supported by empirical evidence (OECD, 2006c, p. 140). Second, policies should take the particular strengths of ageing workers' experience (the 'resource' based approach) as a starting point instead of the deficit approach, which emphasises physiological decline and other limitations (Cedefop, Tikkanen, 2009).

<sup>(26)</sup> Tikkanen refers to four primary negative stereotypes related to age and development: ageing workers do not want to learn; ageing workers cannot learn; ageing workers have problems with new technology; investment in training of ageing workers gives a poor return (Cedefop, Tikkanen, 2009).

There is also a clear need to link policies to evidence. Monitoring and evaluating measures should be an integral part of policy implementation. However, due to the general scarcity of long-term impact research on the effects of labour-market policies, it is unclear which policies or aspects of policies work and whether the policy initiatives being taken within one country are transferable to other settings. Moreover, it is not obvious that the initiatives of one country yet had any direct

**Box 3:4. Success factors in redeploying Swedish ageing workers into healthcare**

A community based regional development project, called MULM (middle-aged unemployed and low-educated men), is a best-practice example of a successful comprehensive approach to addressing labour-market and ageing-workers needs. The context of the project is a region in the north of Sweden, which has to deal with various problems: an ageing population, high rates of unemployment of middle-aged workers due to restructuring, and brain-drain as a result of younger people leaving the region.

As public healthcare is the only expanding sector in the area, the core goal of the project was to redeploy unemployed ageing men into this sector. This presented two main challenges. How to encourage middle-aged men to view working in healthcare as a career opportunity? How to prepare the public employment agency to introduce healthcare as an attractive option to them?

Factors that proved to be instrumental in achieving success were use of a collaborative approach involving all stakeholders, an informal and open way of attracting participants to the program and consistent follow-up, and the development of a nursing training programme for ageing men, adapted in contents, length and practical in-house training. The following elements in these programmes added significantly to the project's success:

- individual study plans;
- defining outcomes of learning;
- accreditation of previous experience and knowledge;
- flexible pedagogical methods and learning environments;
- social support, coaching procedures;
- high level of work task integration in learning activities;
- comfortable surroundings and learning environments;
- mentoring programme at the workplace level;
- meeting peers and learning about the practice;
- follow-up and feedback on learning experiences;
- learning should be developed as a social practice.

*Source: Cedefop, Randle et al. (2008).*

impact on access to and participation in CVET for ageing workers at all.

Much scope exists for policy measures designed to assist ageing workers intending to access work-related training (European Commission, 2007a; Cedefop, Tikkanen and Nyhan, 2006; OECD, 2006c). But it also seems that most of the initiatives taken during recent years fall within a 'voluntarist approach' (Wooden, 2001, p. 64). Despite this, the trend towards early retirement has reversed and several factors offer a promising basis for future policy initiatives (OECD, 2006c). Increases in the level of educational attainment, employment decline for manual work and emerging policies to encourage longer working lives will support a gradual move towards active ageing societies.

### 3.5. Conclusions

The analysis of demographic developments in the coming decades and their impact on employment has shown that population ageing will have far-reaching consequences for VET. The reduction of younger age cohorts implies that fewer students will enrol in IVET, leading to falling numbers of VET graduates and a decrease in employment for teachers and trainers. The impact of population ageing on IVET is particularly strong in eastern Europe and the Baltic States.

Potential future labour-market imbalances, as a result of an undersupply of graduates having adequate skills to address labour-market needs, require well-justified policy responses. Increasing immigration is often seen as a general panacea for dealing with demographic change but large numbers of extra-EU-27 immigrants would be required: to neutralise the negative effects of ageing on employment, around 1.4 million new immigrants a year would be needed. Attracting more immigrants would be an option to address future labour-market problems, but it also brings with it many new challenges for VET. Integrating these new migrants successfully into European labour markets and societies would require substantial effort.

The impact of population ageing on CVT can mainly be assessed by examining the other side of the age spectrum. Population ageing implies

that employment for ageing workers will rise significantly in the coming decades; for Ireland, Greece, Spain and Italy this development is most pronounced. Although still limited in absolute terms at present, old age employment beyond retirement age will increase substantially in all Member States. At Member States level, there is no evidence for a significant relationship between projected ageing and current ageing worker participation in VET, but clusters of countries can be distinguished. In countries of southern Europe (Greece, Spain, Italy and Portugal), significant increases in employment of ageing workers is accompanied by below-average participation in CVT. In contrast, in some of the Nordic countries, future increases in the number of ageing workers are limited, but ageing workers' participation in CVT is relatively high. In the Czech Republic, Slovenia and Slovakia we find the combination of substantial ageing of the workforce with a relatively high participation of ageing workers in CVT.

Population ageing in the EU implies that the number of participants in IVET will decline in most Member States, while ageing worker employment and employment after retirement will increase substantially. However, the patterns of ageing, its impact on employment and the consequences for VET are far from uniform across countries and, therefore, needs country-specific policy responses. It is important to recognise that population ageing does not only imply risks and threats, but also provides opportunities to address the twin challenge of promoting the quality of IVET and creating conditions to improve the skills of those in the labour force through CVET (European Commission, 2006e). To deal effectively with demographic change in the coming decades, VET faces three main challenges.

A first challenge is to adapt IVET and its associated systems and institutions to the reality of lower future participation in IVET in many countries while realising, at the same time, the ambition of improving IVET quality. Developing strategies to enhance the quality of IVET requires careful analysis at various levels to realise effective and efficient reallocation of both financial and human resources (mainly teachers and trainers). In addition, the combination of longer working lives and the dynamics of change in competence requirements induced by various developments should have implications for the type and the

nature of the skills that IVET delivers. Efforts should be made to ensure that, along with specific vocational and professional skills, the delivery of general competences supporting lifelong learning is strengthened.

The second challenge concerns the ambition of CVT to support active ageing and longer working lives through lifelong learning. Training and learning efforts should be approached from a life-cycle perspective and deliver knowledge and skills that address labour-market needs to prevent skill obsolescence. Age-aware training efforts require that both training content and delivery schemes are adapted to career phase, age and workers' learning capabilities. Improving the low training participation of ageing workers requires efforts at various levels. To realise active ageing societies, barriers to labour-market participation and training and learning must be dealt with. But improving our understanding on why and how different barriers interact requires new insights on the relationships and interdependencies between ageing, learning and work. For example, many studies have identified barriers to training and learning, the most important of which are employer attitude, learning ability and employee attitude. But little is known of how much weight to attach to each of these factors. Improving our understanding of the relationship between these three factors could provide a basis for further policy recommendations and actions as well as further organisational implications. In this context, research efforts that provide sound evidence on the distinct benefits of VET can play a pivotal role in strengthening both individual and organisational incentives to invest in CVT and so support EU and national VET policy.

The final challenge is to foster interdependencies between IVET and CVET, systems, institutions and practice. As continuous training and learning is a key element in learning societies, IVET and CVET become more interconnected and stakeholders should recognise this. Ageing and the shift from capital-based economies to learning societies might require that resources are shifted from IVET to CVET. The ability to share expertise and deliver VET in multiple contexts has major implications for VET teachers and trainers. Continuing efforts to improve VET by investing in the expertise of teachers and trainers are important in dealing with population ageing in Europe in the coming

## 4. VET and the economic performance of firms

The need to modernise vocational education and training (VET) stems partly from the importance of VET for the economic performance of firms. Several researchers have emphasised the positive effects of education in general on firms' performance. The theme was also addressed in Cedefop, Descy and Tessaring (2004a); Bosworth et al. (1992); Wood (1992); Black and Lynch (1996; 1997; 2001); Barry et al. (1997); Blechinger and Pfeiffer (1998); Blundell et al. (1999); Gunnarsson et al. (2001); and Turcotte and Rennison (2004), have argued that the presence of graduates, of high level skills and of more educated people among top executives and the workforce increases the quality of the goods and services they produce, stimulates innovation, and increases productivity and profitability. However, beyond educating the workforce, employer-provided VET-apprenticeship or continuing vocational training (CVT) – is crucial to improving workplace performance. The focus in this chapter is on analysing the specific impact of employer-provided VET on economic performance of firms.

The aim is to provide an up-dated synthesis on the relationship between firms' training provision and their performance, and thus clarify what is at stake there when discussing VET modernisation. Section 4.1 recollects the major findings from relevant research literature and Section 4.2 describes recent trends in firms' training activity in the European Union (EU).

### 4.1. What we know: the influence of training on firms' economic performance

Several authors have addressed or reviewed (Blundell et al., 1999; Cedefop, Hansson et al., 2004; Tocher et al., 2007; Cedefop, Smits, 2008) the links between employer-provided training and the economic performance of firms. According to the research literature, providing

training mainly affects three aspects of firms' economic performance: innovation capacity, growth and productivity. Some papers address all these aspects (and others) jointly as in the paper by King-Kauanui et al. (2006), in which the dependent variable is a composite index of eight performance dimensions: product quality, new product development, market development, sales growth, productivity, operating profit, return on assets, growth in profits. These authors found that the percentage of employees receiving formal training, the number of informal training hours per employee and the average training expenditure per employee had a significant positive effect on the composite performance index. Other papers

#### Box 4:1. Determinants of investing in VET

Should firms provide VET, either general or specific, to their employees? As was recalled by Smits (based on Becker, 1964), firms – as well as employees – would not engage in training if they are not to share in the resulting benefits. Public incentives such as subsidies or tax-reduction might make training attractive, but would not prevent firms from providing low quality training, nor employees from sparing efforts and missing the best of the learning opportunities offered. Smits analysed the logic of firm and employee interest in the benefits of training, and their resulting willingness to provide or take part in VET. Smits identified four determinants of critical importance for the sharing of benefits: the degree of firm-specificity in the training content, the degree of competition in the market for trained workers, the rate of retention of firm-trained employees, and the bargaining power of trained workers. The results were that the training firm's share in the benefits increases (and the worker's share decreases) along with the degree of firm-specificity, the degree of competition and the retention rate, and decreases when workers gain bargaining power. Smits's model thus predicted that firms could appropriate a higher share of the returns on training from CVT rather than from IVET programmes, and in Germany rather than in the UK and US. Data for testing empirically the Smits model are lacking, but research has accumulated empirical evidence proving that firms generally do benefit from training their staff.

Source: Cedefop, Smits (2008).



address the various dimensions of performance separately. Most studies conclude that the effects on performance are positive. However, some limits exist, mainly because research has failed to prove so far that the positive effects of providing training extend to an important dimension, namely profitability.

#### 4.1.1.1. The positive effects of training on firms' performance

First, training may improve innovation capacity. Research has underlined the need for firms to have qualified staff to be able to take advantage of product and process innovations (e.g. Blundell et al., 1999; Ng and Li, 2003; Brunello and Gamberotto, 2007). Laursen and Foss (2003) have shown that decentralisation, i.e. delegating problem solving rights to the shopfloor, is conducive to innovation through the use of local knowledge at work-team level. Therefore, training as a booster of staff knowledge and skills may be a factor of innovation in processes and products. Analysing a Danish sample of 1 900 firms, they observe a positive impact of both internal and external training on the probability that firms introduce innovative products on the market. In related research among 280 high-tech firms in China, Li et al. (2006) found a statistically significant positive effect of training on technological innovation. In this study, technological innovation was measured using a seven-point scale based on the following five criteria: frequent introduction of new products; probability of success for new products; time spent in new product research and development; radical improvement in the company's technology; and frequent renewal of equipments.

The second positive effect of training on company economic performance relates to survival and growth perspectives. Based on data on UK firms, Collier et al. (2005) have observed that, in large establishments, training non-manual workers increases the likelihood of survival in the medium-term. Further, training may improve economic growth. Alba-Ramirez (1994) analysed 595 medium and large size Spanish firms and found that where training is provided, levels of

sales per employee are significantly higher. Based on a sample of British firms, Fraser et al. (2002) observed that company involvement in a training programme boosted growth. In their study, the impact on growth could be observed within three months following the training in case of small-scale <sup>(27)</sup> training projects such as, for example, computer training. The positive impact could occur later (up to 15-18 months after the training) in case of larger-scale <sup>(28)</sup> training actions.

The third positive effect of training for economic performance relates to productivity. Several papers conclude that workplace training has a significant and positive impact on company productivity: Alba-Ramirez (1994); Bartel (1994); Black and Lynch (1996); Barrett and O'Connell (1999; 2001); Groot (1999); Dearden et al. (2000, 2006); Ballot et al. (2001); Lee (2004); Turcotte and Rennison (2004); Zwick (2005, 2006); Almeida and Carneiro (2006); and Liu and Batt (2007). The indicators of training and productivity vary from one study to another, which does not allow synthesising of results in one average impact measure. Smits gathers some of these results (Cedefop, Smits, 2008). To give a general idea of the impact, it can be considered that raising the proportion of employees trained by one percentage point would increase productivity by around 0.8 %.

As Ng and Li (2003) showed, the positive effect of training on firms' economic performance can be explained by the idea that training enables workers and managers to adopt better production and management techniques, which raises output without additional factors of production, hence their productivity. Wagner (2005) has given a detailed illustration of how training can increase productivity. Comparing matched pairs <sup>(29)</sup> of British and German firms from three industry sectors <sup>(30)</sup> during around 10 years in the 1990s, Wagner observed that German firms showed higher labour productivity (from 40 % to 63 % higher) than British ones. Examining further the educational background of staff and training practices of firms, the author noticed that more emphasis was put on training in the German context. First, at production management level, British firms generally

<sup>(27)</sup> Small-scale projects in this study are those costing from GBP 500 to GBP 6 000.

<sup>(28)</sup> Amount invested over GBP 25 000.

<sup>(29)</sup> The study was conducted on pairs of British and German firms comparable with respect to size and product.

<sup>(30)</sup> Metal working, furniture and clothing.

appoint staff with a sales or financial background, whereas German firms employ graduate engineers. As Wagner stresses, the lack of technical understanding and competence may lead to lower familiarity with technological innovation, delays in technological upgrading of equipment, and finally lower efficiency. Second, while foremen positions in British firms are generally acquired as a result of experience without formal qualifications, foremen in German firms had completed formal qualification (e.g. the higher certificate of master craftsman or apprenticeship qualifications), or had taken additional training in technical knowledge and organisational methods. This enables foremen to prepare appropriate machine-settings, operation sheets, production scheduling and organisation, thus favouring productivity. Third, there was also a gap between both countries in maintenance skills. In contrast with their German counterparts, British firms were generally lacking in-house staff able to diagnose and repair breakdowns, which resulted in longer production disruptions and lower productivity.

Most of these papers outline that the positive effect of training on productivity is not uniform but depends on the training type and content, on the trainees' characteristics, and on overall strategy. On the training type side, Zwick (2005) concludes from German data that formal external courses and training circles have a clear and significant positive impact on productivity, while other forms (formal internal courses, self-learning, participation at seminars and talks, and job rotation) do not. In terms of content, Barrett and O'Connell (2001) found that the positive effect rather comes from general training, while specific training seems to have no significant influence. Alike, Turcotte and Rennison (2004, p. 32) noted that '[...] it is not so much the quantity of training provided, but the subject matter of that training that matters for productivity', which also recalls Black and Lynch (1996, p. 266): '[...] it is not so much whether you train workers, but rather what you train the workers in that affects establishment productivity'. Researchers have also considered the characteristics of trainees. Alba-Ramirez (1994) suggested that the positive effect of training might be limited to senior employees receiving formal training. As regards strategy and the measures surrounding the training actions, some authors

outlined that employees who received training should be placed in positions where they can apply the knowledge acquired. This was noticed by Alba-Ramirez (1994, p. 13): 'the firm's benefit from training is enhanced when training is aimed at the employees who have a greater capacity to learn and are so strategically placed in the company that they apply their new skills more effectively'. Sutyono (2007) emphasised this, illustrating how a seniority-based system of promotion could preclude promotion of employees returning from educational leaves and maintain them in tasks not matched with their new capacities, thus leading to wasting the benefit of training. Another remark was that of Turcotte and Rennison (2004) stressing that the positive effect on productivity is enhanced by combining training with technology use.

#### 4.1.2. Limits to performance positive impact

A more complete view of the return on training for firms should consider not only productivity gains but also how the additional productivity is shared. In the neoclassical human capital theory framework (Becker, 1964), wages being based on workers' marginal productivity, firms will finance only specific training of little or no market value, to capture the wedge between productivity and wages. In the real world, however, there is a range of allocation options for productivity gains, including not only profit and wage/employment increase, but also product price decrease and interests and tax payments. A complete view of the returns on training for firms should address the effects on each of these aspects to help understand the precise kind of advantage(s) – wage distribution, market competition, room for management or for strategy – which employers as such specifically can draw from training.

However, there is a lack of such studies, though some researchers have attempted to address the effect of training on firm profitability. In these studies, the difference between productivity gains and wage increase is supposed to represent firms' profit. In their paper on the effects of human resource practices in the Dutch pharmaceutical industry, De Grip and Sieben (2005) have observed that training employees increases productivity without affecting average wage level, which would be generally interpreted as an increase in profits. In two other studies based on British company

data, Dearden et al. (2000, 2006) have found that training increases productivity and wages, the impact on productivity being higher. Based on a literature review, Blundell et al. (1999) also suggested that training increases productivity more than wages. However, all these studies rely on indirect measures of profitability, which they assume is given by the difference between productivity and wages. A few other studies have attempted to link training with direct measures of profitability such as Tobin's Q<sup>(31)</sup>, the total returns for shareholders (Molina and Ortega, 2003), the rate of return on assets and the rate of return on equity (Jackson-Smith et al., 2004). Both studies failed to prove a clear and significantly positive link between training and profitability. At this juncture, the effect of training provision on firms' profitability is unclear.

Further, a few studies have cast doubts on the existence of positive links between training and company performance (Cedefop, Descy and Tessaring, 2004a). On the one hand, some studies could not find any link at all (Westhead and Storey, 1996; Black and Lynch, 1997, 2001; Foreman-Peck et al., 2006). On the other hand, other studies even found negative links (Baldwin et al., 1994; Zwick, 2005). Mostly, these results have been explained by authors themselves or by other analysts as a consequence of the kind of data used (sometimes limited to small firms, inappropriateness of indicators) and/or of the methodology applied (especially not differentiating training by quality).

#### 4.2. Observation of recent company training activities in the EU

The Eurostat continuing vocational training survey (CVTS) helps monitor some basic trends in EU firms' training provision. The first survey (CVTS1) was conducted in 1993 and the second (CVTS2) in 1999. Preliminary results of CVTS3, conducted in 2005, were released in 2008. These data show that 60 % of all enterprises in EU-27 provide training (Table 4:1).

From CVTS2 and CVTS3, the 10 countries where employer-provided training was more frequent in 1999 and 2005 were Denmark, Germany, Ireland, France, Luxembourg, the Netherlands, Austria, Finland, Sweden and the UK. The 10 countries where firm-provided training was less frequent were Bulgaria, Greece, Spain, Italy, Lithuania, Hungary, Poland, Portugal and Romania.

Table 4:1. **Training firms as a percentage of all firms**

	1999 (CVTS2)	2005 (CVTS3)
EU-27	–	60
EU-25	61	61
EU-15	62	–
BE	70	63
BG	28	29
CZ	69	72
DK	96	85
DE	75	69
EE	63	67
IE	79	–
EL	18	21
ES	36	47
FR	76	74
IT	24	32
CY	–	51
LV	53	36
LT	43	46
LU	71	72
HU	37	49
MT	–	46
NL	88	75
AT	72	81
PL	39	35
PT	22	44
RO	11	40
SI	48	72
SK	–	60
FI	82	77
SE	91	78
UK	87	90

Source: Eurostat, 2008.

<sup>(31)</sup> Tobin's Q is the ratio of the market value of a firm's assets to the replacement cost of these assets (Tobin, 1969). comparable with respect to size and product.

Half of all firms (53 % in 1999, 49 % in 2005) provided CVT courses, all other forms (job-rotation, learning circles <sup>(32)</sup>, quality circles <sup>(33)</sup>, self-directed learning <sup>(34)</sup>, and attendance at conferences, workshops, seminars, lectures or trade fairs) represented another half (Box 4:2 presents a typology of firm-provided training). As can be seen from Table 4:2, training at work and attendance at conferences, workshops, lectures and seminars were the most frequent other forms of training. The frequency of CVT courses and conference-like sessions taken together indicates that, no matter

what the business size, the bulk of employer-provided training in the EU is non-formal.

CVTS provides respective shares of internal and external training information only for CVT courses. In 2005, 89 % of firms providing CVT courses funded external courses; only 54 % provided internal courses. The percentages were similar in 1999: 91 % (external) and 55 % (internal). External training clearly dominates firms' provision of CVT in the EU. As Table 4:3 shows, this is true for all size classes.

#### Box 4:2. Types of firm-provided training

Firm-provided training can take place within or outside the enterprise. Gruber et al. have provided a typology of its various forms (Cedefop, Gruber et al. 2009). Training within the enterprise can be non-formal or informal. Non-formal training is structured and with educational purpose though not certified, as is the case, for example, with coaching or workshops/seminars/conference attendance. Two generic types of non-formal training have been distinguished in the literature: learning-type forms, which combine formal training activities with learning through work experience; and working-type forms (e.g. project work) where no formal training is included. Learning in the workplace may be informal too, for example through interpersonal interaction or participation in quality circles. Informal learning is defined without educational intentions and may not be structured. Following the terminology of Cedefop, Descy and Tessaring (2001a), training within the firm may be 'tied to work' (i.e. location of learning and work are identical) or 'connected to work' (work and learning are organised separately but share location). Outside the enterprise, firm-provided training can still be non-formal, but can also be formal. Not only is formal training intentional (with educational purpose) and structured, but it is also certified. Formal training can be either 'connected to work' (for example preparation for apprenticeship qualifications) or 'work-oriented' (no shared location with the workplace) and can be supplied by the education system or by private providers, through in-person or virtual/distance schemes. In terms of content, firm-funded training (whether on- or off-the-job) can be either knowledge/competence-oriented (targeting improvement of skills and cognitive capabilities) or behaviour-oriented (behaviour and personality development).

Source: Cedefop, Gruber et al. (2009).

Table 4:2. Enterprises providing any other form of training as percentage of all enterprises, by form of training and size class (number of employees)

	1999 (CVTS2, EU-25)				2005 (CVTS3, EU-27)			
	Total	10 to 49	50 to 249	250 or more	Total	10 to 49	50 to 249	250 or more
Continued vocational training in work situation	36	–	53	–	36	36	36	36
Job rotation, exchanges or secondments	15	–	21	–	15	15	15	15
Learning/quality circles	12	–	20	–	12	12	12	12
Self-learning	15	–	23	–	15	15	15	15
Continued training at conferences, workshops, lectures and seminars	36	–	54	–	36	36	36	36

Source: Eurostat, 2008.

<sup>(32)</sup> Meetings of employees willing to learn more about their work and workplace.

<sup>(33)</sup> Meetings of staff targeted at discussing and suggesting improvements in the production process.

<sup>(34)</sup> Employer-funded individual learning activities using such media as open and distance learning, video/audio tapes, computer, Internet, and so forth.

Table 4:3. **Percentage of all enterprises providing CVT courses, by type of course (internal/external) and size class**

	1999 (CVTS2, EU-25)				2005 (CVTS3, EU-27)			
	Total	10 to 49	50 to 249	250 or more	Total	10 to 49	50 to 249	250 or more
Internal courses	55	49	66	85	54	50	63	84
External courses	91	90	94	96	89	88	91	92

Source: Eurostat, 2008.

Table 4:4. **Percentage of all non-training enterprises, by reason for not providing CVT and size (number of employees)**

	1999 (CVTS2, EU-25)				2005 (CVTS3, EU-27)			
	Total	10 to 49	50 to 249	250 or more	Total	10 to 49	50 to 249	250 or more
No need/the existing skills and competences of the persons employed corresponded to the current needs of the enterprise	75	76	70	59	72	72	73	68
People recruited with the skills needed	29	28	36	31	51	51	55	52
Initial training sufficient	22	21	27	13	–	–	–	–
Investment recently made; no need this year	4	4	7	7	8	8	8	8
No time	25	25	25	20	32	32	30	33
Too expensive	16	16	14	10	23	23	27	35
Lack of suitable CVT courses in the market	–	–	–	–	15	15	14	10
Difficult to assess enterprise's needs	13	13	13	10	10	10	10	10
Other reasons	8	8	9	26	20	19	22	31

Source: Eurostat, 2008.

Of European firms, 40 % (39 % in 1999) do not provide any training. The alleged reasons for not providing training are stable over time. First, a substantial majority of non-training firms do not train their personnel as they have already recruited people possessing the skills needed. Second is the lack of time, and third is the cost. Lack of suitable courses, difficulty in assessing needs and other reasons seem to be marginal. Table 4:4 sets out the stated reasons for not training. The firms who train do so for reasons explained in Section 4:1. Several authors have attempted to identify the characteristics of those firms which actively engage in providing training. These include firm size, specificity of workers hired, sector, skill content of labour demand, exposure

to technological change, and economic density. CVTS provides some data which allow analysis of the impact of size and sector on the incidence of training.

#### 4.2.1. Firm size and engagement in training provision

Most researchers analysing firm-provided training observed that the tendency to train is stronger in large firms than in small ones. Guidetti and Mazzanti (2007) have conducted an empirical study on training practices in two Italian provinces (Ferrara and Reggio Emilia, northern Italy) and concluded that large firms invest more in formal training than smaller ones, and have more numerous and varied training activities. The positive relationship

Table 4:5. **Training enterprises as a percentage of all enterprises, by size class (number of employees)**

	1999 (CVTS2, EU-25)			2005 (CVTS3, EU-27)		
	10 to 49	50 to 249	250 or more	10 to 49	50 to 249	250 or more
EU-27	–	–	–	55	78	91
EU-25	56	80	95	56	80	92
BE	66	93	100	58	86	99
BG	24	34	62	24	44	61
CZ	62	84	96	66	93	100
DK	95	98	100	83	96	99
DE	71	87	98	65	81	87
EE	58	85	96	62	85	96
IE	75	98	100	–	–	–
EL	11	43	78	16	39	70
ES	31	58	86	43	68	89
FR	70	93	98	69	98	100
IT	20	48	81	29	58	86
CY	–	–	–	45	80	100
LV	49	70	91	31	56	76
LT	37	60	80	40	64	88
LU	67	83	99	68	85	95
HU	32	51	79	42	77	90
MT	–	–	–	40	65	87
NL	85	96	98	71	88	96
AT	68	91	96	79	91	99
PL	36	52	63	27	55	80
PT	17	46	78	39	70	91
RO	8	13	38	36	50	74
SI	35	72	96	67	85	97
SK	–	–	–	56	74	92
FI	78	97	99	73	89	94
SE	88	99	99	74	95	100
UK	85	91	98	89	92	96

Source: Eurostat, 2008.

between size and training provision was also noted by such authors as Alba-Ramirez (1994) in Spain and, outside the EU, by Lynch and Black (1998) in the US and Kotey and Folker (2007) in Australia. An explanation of this relationship may be the age of firms, since new firms are also smaller. In their study on British companies, Fraser et al. (2002) have found that age is positively linked with the propensity to train: the younger the firm, the lower the likelihood it will provide training. One of the explanations these authors provided was that new firm owners do not consider training as a priority since their major concern is survival. This could be applied to small firms too.

Data from CVTS suggest that the link between firm size and involvement in training provision applies in the EU, both in 1999 and 2005. Table 4:5 shows that in all countries, the percentage of training firms increases with firm size.

#### 4.2.2. Sectoral influence

In their study on northern Italy, Guidetti and Mazzanti (2007) have also emphasised that training provision is positively linked with being part of the service sector. Such a trend seems to appear in the CVTS data for 1999 and 2005 (Table 4:6).

The last four rows exclusively concern services and show more frequent firm involvement in

Table 4:6. **Training enterprises as % of all enterprises, by economic sector**

	1999 (CVTS2, EU-25)	2005 (CVTS3, EU-27)
Mining and quarrying; electricity, gas and water supply; construction; hotels and restaurants; transport, storage and communication	56	53
Manufacturing	55	54
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	64	60
Financial intermediation	90	88
Real estate, renting and business activities	74	75
Other community, social, personal service activities	68	70

Source: Eurostat, continuing vocational training survey (CVTS3).

training provision than the first two, where most activities belong to primary and industry sectors. This seems in line with Guidetti and Mazzanti's observation. However, interpretation here needs caution since some service activities are also present in the first row (transports, hotels and restaurants), which therefore cannot be taken as representative of primary and secondary sectors. In addition, training participation in the service companies included in row one might well be lower than in the rest of the service sector. However, the provisional CVTS3 results do not provide detailed data for row one.

#### 4.2.3. Other trends

Literature also highlights some other features for which CVTSs do not provide any data. These trends, however, are of interest for the characteristics of training firms.

In their study on northern Italy, Guidetti and Mazzanti (2007) found that innovation-oriented production and labour demand, as well as employing large flows of short-term workers <sup>(35)</sup> positively influence training provision. Alba-Ramirez (1994), Lynch and Black (1998) and Gruber et al. (in Cedefop, Gruber et al. 2009) also stressed the link with innovation and technological change. Two other traits associated with engagement in training provision are capital-intensiveness (Alba-Ramirez, 1994; Lynch and Black, 1998) and the practice of profit-sharing (Alba-Ramirez, 1994).

Recent research has also emphasised the role of economic density on firms' propensity to provide training. Economic density can be measured by the number of firms per square kilometre and can stimulate firm-provided training. The rationale behind this is that the more firms (and therefore competitors), the more knowledge is potentially to be captured in the market place, and the more skilled staff are needed by companies to identify, analyse and take advantage of this knowledge. Economic density is thus a factor which can lead firms to train their staff to be able to exploit new opportunities of productivity. However, density can discourage firms from providing training, because it boosts both labour supply (thus easing recruitment of skilled staff without having to train them) and the risk of poaching. Using longitudinal data from the British household labour survey, Brunello and Gambarotto (2007) have observed that the negative effect prevails, *ceteris paribus*, firms in denser areas train less than firms in other areas.

### 4.3. Conclusions

Most EU firms provide their employees with training which, research suggests, is critical to economic performance. There is evidence that employer-provided training enhances process and product innovation, growth and productivity. On the basis of available evidence, it could be considered that, at firm level, raising the proportion

<sup>(35)</sup> Guidetti and Mazzanti (2007) also observed that the same factors influence significantly the degree of training content generality/specificity. For example, in the Province of Ferrara, they observed that the general part of training content is higher in large and medium-size firms, in service and metalwork firms, and in firms with new competences oriented labour demand and atypical worker labour supply.

of employees trained by one percentage point increases productivity by around 0.8 %. However, 40 % of EU firms – mainly small and medium-sized businesses – still do not train their staff. Modernising firms' provision of VET is, therefore, crucial to the economic performance of EU firms and economies. For policy-making, this means ensuring that both employees and firms share in the benefits of training, to avoid sub-optimal use of training. The importance of VET might also suggest reinforcing public funding of VET to complement firms' training investments when these are insufficient (market failure). Similarly, given the challenge of keeping up with large firms in this respect, public policy should provide

small firms with consultancy, implementation and management support for training provision. More transparency on the benefits of VET for enterprises and information on when these impacts occur might also be an incentive for small firms to invest more in VET. Since 2008 Cedefop has undertaken new research on the economic and social benefits of VET, also for enterprises and economic sectors; the findings will help in this respect. Finally, encouraging cooperation among companies to help SMEs face the problems relating to training provision might be of interest, for example in the form of joint training systems to exchange apprentices and widen their training content.



## 5. Social Europe: the role of education and VET

### 5.1. Introduction

Discussing social exclusion in Europe is often equated to analysing exclusion from the labour market, namely mainly unemployment or involuntary inactivity. By enabling, aiding and maintaining labour-market integration, education and VET are major determinants of social inclusion. However, along with family, the education system is also a primary means for socialisation and occupational socialisation is one important way in which VET, in particular, can contribute to inclusion and cohesion within societies. Initial VET (IVET) contributes to the formation of occupational identities and develops a sense of belonging to a community of practice. Adult education and continuing VET (CVET) contribute to the further development of personal and professional identities. Further, in a society where poor or inadequate skills can lead to lifelong poverty, the social returns from good education and lifelong learning opportunities are increasing.

In this chapter, we will discuss various social benefits: inclusion, cohesion, social mobility and other social outcomes of learning. From an economic perspective, these kinds of benefits are typically viewed as non-material benefits for individuals or 'externalities', namely benefits which have a public character and cannot be fully captured by individual economic agents. Research on the social outcomes of learning has, therefore, primarily investigated microsocial and macrosocial benefits. Its findings have already been discussed at length in Cedefop's third re-search report (Cedefop, Descy and Tessaring, 2005). However, the benefits of specific learning pathways or activities (VET, general education, adult education, CVT) have not been considered much by research<sup>(36)</sup>.

Below we present an overview of the evidence on the social benefits of VET. Section 5.2 looks

at the role of VET in reducing social exclusion. Subsequent sections discuss the role of VET in relation to social cohesion (Section 5.3) and social mobility (Section 5.4). Section 5.5 summarises results of research on other social outcomes of vocational learning<sup>(37)</sup>. Section 5.6 concludes.

#### Box 5:1. Social exclusion, cohesion and mobility: defining concepts

Social exclusion is a phenomenon that characterises individuals. Exclusion usually affects the economic, social and cultural capital of people simultaneously: unemployment, low income, poor social networks, low level of education and of access to further learning opportunities, poor health and access to medical care, poor housing conditions, etc. Exclusion is defined with reference to a group or a norm.

Social cohesion applies to a society as a whole. Although it is generally assumed that achieving social cohesion implies low levels of social exclusion, it also necessitates intra-community cooperation and social solidarity across communities and social groups. These are likely to be enhanced by a relative equality of incomes, strong social institutions and the prevalence of societal attitudes such as trust and tolerance.

Social mobility is the degree to which, in a given society, offspring and subsequent generations move up and down the social scale or the degree to which individual social standing can change throughout the course of life.

### 5.2. Reducing social exclusion

Social exclusion is a multidimensional phenomenon; socially excluded individuals are usually subject to various types of exclusions at the same time, for example from employment and from social networks. Being socially included also means different things in different countries. Anglo-Saxon countries tend to focus on being

<sup>(36)</sup> In 2008, Cedefop initiated a new research project to investigate the specific social and economic benefits associated with VET, as compared to other learning pathways.

<sup>(37)</sup> This chapter is based primarily on contributions to Cedefop's fourth research report: *The role of VET in enhancing social inclusion and cohesion* (Cedefop, Preston and Green, 2008), and *Social mobility and VET* (Cedefop, Tsakarissanos, 2008).

employed while Nordic countries would emphasise democratic participation as indicators of social inclusion (Box 5:2). As a result, institutional and cultural contexts have to be taken into account to understand how VET can be modernised to foster social inclusion.

To identify victims of social exclusion, Preston and Green argue that the focus should be on outcome indicators, rather than on predefined categories of individuals (Cedefop, Preston and Green, 2008). For example, rather than considering the unemployed or those at-risk-of-poverty<sup>(38)</sup> as potentially excluded, one should look at those individuals who are victims of economic exclu-

sion (those with very low income) or at those with poor social capital. The 'target groups' (groups of individuals identified by their characteristics) are very heterogeneous in terms of outcomes such as income or social capital. Using social, education or vocational programmes to target groups in an undifferentiated manner leads to waste of public resource and is not likely to reach individuals who do not belong to the target group but experience similarly poor outcomes in terms of income, social capital, health or other dimensions of social exclusion.

To prove their point, the authors analyse five countries using the world and European value surveys

#### Box 5:2. VET and socialisation

Traditionally, it is general education that is regarded as a key agent of socialisation while VET has been ascribed more limited roles. Greinert (2004), however, identifies three major traditions of VET which have different implications for the socialisation functions of VET. The German VET tradition incorporates a 'societal model' of training, where the emphasis is on professional socialisation. The British 'market model' has a more instrumentalist function which focuses on occupational training. Finally, the French 'state model' emphasises the need to cultivate a technique and a general culture (*culture générale*).

The French VET system emphasises the primacy of school-based routes, the location of VET within the national education system of institutions and diplomas and the importance of fostering connections between general and vocational education. This tradition has been accentuated in the past two decades as vocational courses have been reformed to lead to the vocational baccalaureate and thus have become increasingly academic.

IVET in Germany and other German-speaking countries stress the social role of vocational learning and the development of civic values – as well as the professional values of the industry sector in which it is embedded – through professional socialisation. Despite the reforms that took place in the German dual system in the past two decades, leading to a reduction in the number of apprenticeship programmes and the growing emphasis on generic and transversal competences, Preston and Green consider that a concern with the broader purposes of developing civic values in VET has not been lost since the key qualifications still include the notion of social competences (Cedefop, Preston and Green, 2008). Nordic countries share with the 'societal model' an emphasis on apprenticeships and strong social partnerships. In these countries, vocational education prepares young people to become 'citizen workers' (Hernes, 1988).

In Britain, VET has always been somewhat marginalised from mainstream education. Historically, general education never occupied an important place in VET programmes and qualifications. The competence paradigm introduced an even more utilitarian approach and general subjects were deemed not relevant to VET and thus removed from the curricula. Instead 'core' or 'key' skills act as surrogate for general education in VET (Green, 1998). This represented a decisive move away from any broad social function of VET. In recent years, Labour governments have developed a different conception of the social role of VET which relates to the idea of 'employability', and which has become a central component of the Government thinking on social inclusion. Employment is seen to help individuals avoid the social risks associated with unemployment, such as poverty, illiteracy, ill-health, crime, etc. In this sense VET has the function of promoting social inclusion through employment.

These three models do not necessarily help us to understand other European countries and it is difficult to allocate countries to a particular model. However, the question of which of the three models above most effectively promotes social inclusion and cohesion is at the heart of contemporary debates about the future model of the European knowledge society.

Source: Cedefop, Preston and Green (2008, p. 131, 138).

<sup>(38)</sup> The structural indicators used by the European Commission for social cohesion/exclusion are typical examples of indicators describing characteristics of individuals at risk of exclusion rather than identifying those really excluded: at-risk-of-poverty rate, regional and long-term unemployment rates, early school leavers, jobless households.

data set. They use low income, poor social capital (association membership)<sup>(39)</sup>, educational exclusion (people not reaching upper secondary level) and self-

reported poor health as indicators of social exclusion. In Table 5:1, they cross such indicators with three categories: workless/working households, single/dual

Table 5:1. **Proportions of individuals, by social category and various forms of exclusion**

	<i>% of the social category</i>				
	Norway	Poland	Portugal	England/ Wales	US
<b>Income exclusion</b>					
Workless households	8	24	27	4	9
Working households	11	10	2	1	2
Single parent households	N/A	25	22	18	N/A
Dual parent households	N/A	15	21	5	N/A
Immigrants	12	20	11	3	9
Non-immigrants	12	10	21	6	5
<b>Social capital exclusion</b>					
Workless households	45	83	78	77	14
Working households	37	76	76	66	11
Single parent households	N/A	72	80	78	N/A
Dual parent households	N/A	76	74	68	N/A
Immigrants	37	80	55	71	13
Non-immigrants	42	76	75	68	11
<b>Incomplete secondary education</b>					
Workless households	49	70	70	68	31
Working households	30	49	36	42	18
Single parent households	N/A	44	40	39	N/A
Dual parent households	N/A	56	53	42	N/A
Immigrant	27	60	10	37	8
Non-immigrants	30	56	53	43	20
<b>No interest in politics</b>					
Workless households	10	31	45	48	11
Working households	6	26	38	39	12
Single parent households	N/A	20	50	63	N/A
Dual parent households	N/A	26	35	34	N/A
Immigrants	7	0	33	29	9
Non-immigrants	7	27	36	37	11
<b>Poor health</b>					
Workless households	19	N/A	N/A	N/A	5
Working households	5	N/A	N/A	N/A	1
Single parent households	N/A	N/A	N/A	N/A	N/A
Dual parent households	N/A	N/A	N/A	N/A	N/A
Immigrants	10	N/A	N/A	N/A	2
Non-immigrants	5	N/A	N/A	N/A	1

Source: Cedefop, Preston and Green (2008).

<sup>(39)</sup> Work on social exclusion confirms the importance of social capital as an indicator of social exclusion (Hills et al., 2002); social networks play a role in job search (Granovetter, 1973) and low levels of social capital are associated with poor health, crime and lack of participation in democracy (Putnam, 2001).

parent households, immigrants/non-immigrants. This table shows for each category a substantial variation both between and within country when looking at indicators of social exclusion. Although the table does not map cumulative exclusion, it is clear that there is fair proportion of individuals in each ‘theoretically non-excluded’ group (working household, dual parent household, non-immigrant) that does face some form of exclusion. Thus an approach to exclusion that focuses only on those who ‘may’ be excluded (such as immigrants with low skills, long-term unemployed) may neglect those who experience similar disadvantage but are often not considered to be at risk of exclusion (e.g. people having a job but with low wage, dual parent household with poor social capital). It is important to note that in Table 5:1, income, social capital, interest in politics and health are all variables that are positively influenced by education <sup>(40)</sup>.

#### 5.2.1. Targeted VET programmes: a remedy for social exclusion?

Preston and Green analyse social exclusion in the five selected countries in a qualitative policy analysis of the role VET plays in promoting the social inclusion of two groups usually targeted by such programmes: immigrants and the disabled (Cedefop, Preston and Green, 2008). This policy analysis, complementing the authors’ statistical analysis, shows that particular factors in designing VET programmes can address social exclusion. Across the five countries, VET programmes targeted at immigrants and the disabled have had a focus on ‘employment’ and ‘competences’ rather than at broader ‘social functions’ of VET. The authors conclude that such a reductive approach may not be conducive to wider forms of inclusion but leads to the lower positions in the labour market. Further, when groups are not involved or integrated in main VET streams but kept in separate vocational tracks, there are poor outcomes in terms of social inclusion. Separate vocational tracks may tend to reinforce social exclusion rather than reduce it

<sup>(41)</sup>. Preston and Green also recommend that VET governance structures need to be considered not only to integrate the social excluded into society, but also include them in the governance of VET policies targeted towards them. Usually, the socially excluded do not form a viable political group as their background characteristics and interests make them too heterogeneous. However, when their interests are represented in civil society, it may lead to VET systems that mitigate social exclusion. Preston and Green thus recommend a consumer-orientated design in vocational education for the socially excluded to foster more active, democratic participation in designing VET which meets their needs. Begg et al. (2008) also underline the need to integrate migrants better as they constitute an element in the wider strategy to boost human capital and they recommend, among the measures to maximise the social benefits of migration, to allow migrants to participate in the decision-making process, even regarding migration policies (Begg et al., 2008, p. 159). These authors also note that ‘to make migration an effective long-term strategy, it is necessary for these migrants and their families to be integrated into programmes for lifelong learning’ (Begg et al., 2008, p. 160).

#### 5.2.2. Possible VET role in promoting social inclusion

Preston and Green conclude their analysis by stating: ‘in terms of social exclusion, although VET arguably has a large role in increasing labour-market participation (a narrow form of inclusion) when wider issues of social inclusion are considered (such as citizenship) it is arguable whether models of VET premised on competences and employment alone can deliver the types of social inclusion desired by EU Member States. [...] There are other models of VET which may be more suitable for combating social exclusion in its wider sense. [...] such model can be found in the] German-speaking countries systems of VET [...]’ (Cedefop, Preston and Green, 2008, p. 179). Giddens (2007) also expresses doubts about ‘according too much primacy to jobs’ in the

<sup>(40)</sup> Preston and Green further elaborate their analysis of the world and European value surveys data by using cluster analysis and logistic regression. On that basis, they identify different patterns and dynamics of social exclusion in the countries investigated. For further details see the contribution of these authors in the background report (Cedefop, Preston and Green, 2008).

<sup>(41)</sup> A cautionary note should be sounded on targeting VET and the usefulness of bespoke programmes for social exclusion. As the authors observed throughout the country case studies, targeted programmes for immigrants and the disabled are often not truly vocational, but rather focus on language/cultural skills or rehabilitation. As important as these are for the groups concerned, the wider functions of VET in terms of socialisation must not be forgotten. It could even be (cynically) argued that these bespoke programmes are a method for native and (to a lesser extent) non-disabled workers to maintain their position in the labour market by rationing access to VET as in previous times (Roediger, 1991; Thelen, 2004).

fight against social exclusion<sup>(42)</sup>. He notes that there are wider social problems to confront than unemployment, that social injustice is associated above all with poverty and that, although a job remains the best way out of poverty, a preventive approach is needed as well as measures to counter poverty episodes that may be unrelated to labour-market status (cited in Begg et al., 2008, p. 154).

Additionally, social exclusion is not just concentrated in those groups with specific racial, class or disability profiles, as shown in the above analysis. Targeting VET on the basis of client class, race, family type or disability creates deadweight losses (some who are not really victim of exclusion will benefit) whereas people who do not fit the profile but are victims of exclusion are not targeted by such learning opportunities. It should not be assumed that targeting VET is the best way of addressing social exclusion. Preston and Green suggest that tailoring (modifying mainstream VET to meet the needs of excluded groups) rather than targeting VET is more appropriate. Tailoring by skills, learning needs and learning capacities is substantially different from targeting by social characteristic and probably more appropriate in modernising VET. This corresponds to the distinction between 'integrative' and 'targeted' approaches.

### 5.3. Improving social cohesion

Social cohesion implies strong communities, low rates of crime, and other social benefits at the individual level, plus inter-community cooperation and social solidarity across communities and social groups. These are likely to be enhanced by a relative equality of incomes, strong social institutions (particularly those involved in welfare provision, including education) and the prevalence of societal attitudes such as trust and tolerance. Social cohesion is, therefore, best studied at societal level (Cedefop, Preston and Green, 2008, p. 126).

#### 5.3.1. Indicators of social cohesion

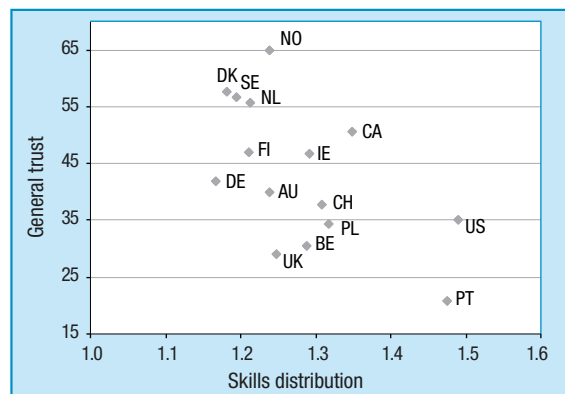
When devising indicators it is important not to confuse social exclusion and social cohesion (Box 5:1). The former relates to individual circumstances, or

temporary economic difficulties, while the second relates to systemic problems. Therefore, while exclusion is best studied at individual level, analysing social cohesion requires indicators at societal level. The OECD compiles a number of indicators which are indicative of systemic problems relating to (a lack of) social cohesion: voting, strikes, prisoners, suicide, work accidents, trust in political institutions and life satisfaction<sup>(43)</sup>. Below we discuss social cohesion indicators which research has shown to be related to education.

Voting is an indicator of people's participation in the life of their community. Civic and social engagement is a social benefit of learning (Section 5.5; Campbell, 2006) and education is a crucial indicator of voter turnout. On average in OECD countries (OECD, 2006b) voter turnout is 12 percentage points higher among the highest educated than among the lowest.

Trust in political institutions reflects confidence in the parliament and government and in public administration of the country. Such trust shapes willingness to cooperate in achieving collective goals and financing of public goods (Meikel-Yaw, 2006, cited in OECD, 2006b). There is a significant negative correlation between educational inequality and the level of general trust: the higher the level of educational inequalities, the lower the level of general trust (Cedefop, Green et al., 2004). Those countries with low inequality in skill distribution have higher levels of trust than those with high inequality (Figure 5:1).

Figure 5:1. **Educational equality and general trust**



Source: Cedefop, Green et al., 2004.

<sup>(42)</sup> Giddens reserves the term 'social exclusion' for multiple deprivations.

<sup>(43)</sup> Eurostat collects statistics presented under the heading 'social cohesion' when such indicators (at-risk-of-poverty, early school leaving or long-term unemployment) illustrate social exclusion.

### Box 5:3. Social exclusion, social cohesion and economic growth

Exclusion represents a mix of objective and subjective dimensions which makes it a highly contextualised variable. Nevertheless, social exclusion is generally thought of as inhibiting both social cohesion and economic growth. Indeed, social exclusion increases the risks of reduced cohesion because it generates a range of social problems such as crime (Oberwittler, 2005), support for extremist parties (Preston et al., 2005) or even urban riots (Olzak et al., 1996). However, these social problems are more likely to affect some communities or neighbourhoods, thus not necessarily reducing cohesion at society level. It may also be noted that social exclusion may be seen as an 'acceptable' consequence of securing welfare (or other privileges) for nationals or majority groups. This can be called the 'dark side' of social cohesion <sup>(a)</sup>.

According to Preston and Green, because it is associated with unemployment and inequalities, social exclusion is probably detrimental to economic growth (Cedefop, Preston and Green, 2008). There is also some empirical evidence that social problems are associated with slower economic growth (Knack and Keefer, 1997; Woolcock, 1998). Begg et al. nevertheless doubt that the links between growth and inequalities are clear and they claim that '[...] empirical findings about the relationship between inequality and economic growth show virtually zero correlation. Growing economies are just as likely to be associated with rising as with falling inequality [...]. Nevertheless, [...] the absolute poverty-reducing effects of growth seem proved by many studies [...]' (Begg et al., 2008, p. 59) but 'when growth accelerates in a very unequal society, the reduction of poverty is smaller than in a society with more equal endowments [...]' (p. 60). According to Cornia and Court (2001, cited by Begg et al., 2008, p. 60) 'very low and very high levels of initial inequalities will impede growth prospects while inequalities in the middle range seem to provide favourable conditions for growth. This [...] deserves more attention in future research'.

As the main factors influencing social cohesion are societal values, institutions and inequalities, social cohesion does not necessarily require societies achieving high rates of economic growth. Nevertheless, well-functioning institutions and good governance <sup>(b)</sup> are particularly important in securing both growth and social cohesion. In the EU, there is also an emphasis on welfare provision as a means of securing access to social necessities given that the main barriers to enhancing social cohesion in Europe are considered to be unemployment, low income levels and an ageing population which increase the likelihood of intergenerational conflicts over distribution of resources.

As social cohesion cannot be operationalised as a single variable, Preston and Green review a range of studies which relate elements of social cohesion to indicators for economic growth (Cedefop, Preston and Green, 2008). Most of the evidence is associational but there are some studies that show causality between elements of social cohesion and dimensions of economic growth. Much of the political science literature on democracy and growth argues that the causality runs from economic growth to democracy. According to an influential study by Pourgerami (1995, cited by Preston and Green), economic growth has a powerful influence on democratisation through education and physical capital formation (Cedefop, Preston and Green, 2008). However, as most Member States have been democracies for the past century, more appropriate in our context is the evidence that suggests that institutions and governance structures may be significant in growth. Ritzen et al. (2000) propose a model in which social cohesion provides the foundation for sound political and institutional governance. Without social cohesion, politicians are engaged in satisfying factional interests and crisis management rather than building stable institutions. Social cohesion therefore generates the conditions in which political reforms, democracy and rights can be consolidated, in turn producing the conditions for 'pro-poor' growth, i.e. growth that is associated with equity in terms of distribution of income. Modelling social cohesion and growth over time, the authors demonstrate evidence that causality runs from social cohesion to economic growth. Easterly (2001) proposes the concept of 'middle class consensus', i.e. when in a society there are few strong classes or ethnic differences. Such relatively homogenous societies are promoted by social cohesion and economic development and a 'middle class consensus' contributes to fostering both future growth and political stability and democratisation. In terms of economic performance, crime imposes additional costs on households and businesses. Palle and Godefroy (1998) evaluate these costs as 4-6 % of GDP each year. Entorf and Spengler (2000) argue that the concentration of crime in poor areas and their impact on economic activity mean that they impact negatively on sustainable economic growth.

(a) By analogy with the 'dark side' of social capital, as called in the literature on the issue.

(b) Cedefop, Descy and Tessaring (2005) also argue that a good social infrastructure plays an important role in fostering economic growth (p. 81-82, 101).

Source: Cedefop, Preston and Green (2008).

Life satisfaction indicators assess the extent to which individuals evaluate favourably the overall quality of their life. Life satisfaction generally increases with educational attainment (OECD, 2006b), although this may be mediated by other aspects such as income or health. According to the OECD (2006b) the unemployed report levels of life satisfaction around 20 percentage points lower than those with jobs, as unemployment leads to high financial stress, lower self-esteem, fewer social contacts and greater incidence of mental problems. Life satisfaction is related to social cohesion insofar as it also relates to the society where individuals live. Average life satisfaction is higher in countries characterised by high levels of trust in others and in parliament.

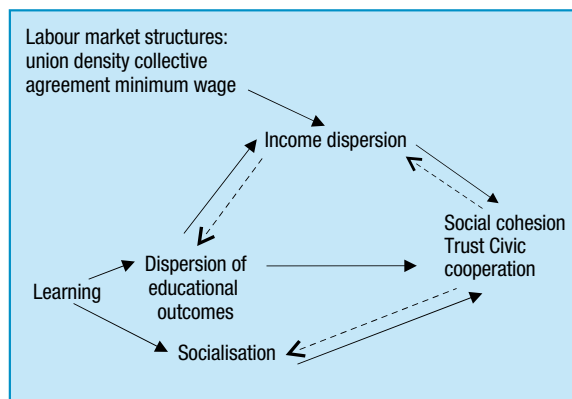
Being extremely marginalised from mainstream society is one of the factors leading to criminal behaviour. Incarceration mostly affects individuals with few social ties, and that have experienced family breakdown, education failure and violent treatment. According to Green et al., crime is influenced by poverty and income inequality, unemployment and poor social cohesion; all antecedents strongly influenced by education and training (Cedefop, Green et al., 2004). Over the last 15 years, most OECD countries have experienced a continuous rise in their prison population rates (OECD, 2006b, p. 104).

### 5.3.2. The role of education and VET in improving social cohesion

McMahon (1999), using data from 1965 to 1995 across 78 countries, finds strong evidence of both direct and indirect effects of education on a wide range of social outcomes indicators. In terms of indicators of social cohesion, education enrolment is correlated significantly with human rights, political stability and democratisation (indirectly through economic growth and for the first two also directly). McMahon also finds that rising levels of enrolment in secondary education are strongly associated with diminishing levels of violent crime, an effect which is produced indirectly through lower unemployment and income inequality. More recent work (Gradstein and Justman, 2001) has investigated the effects of education quality (in terms of numeracy/literacy skills) and has found substantial evidence of impact. This implies that increases in the level of education attainment

(including VET), or of numeracy/literacy may affect socioeconomic performance which may be associated with economic growth. Figure 5:2 summarises the effects of learning on social cohesion according to Green et al. (2006). This figure underlines the fact the education equity

Figure 5:2. **Learning effects on social cohesion**



Source: Adapted from Green et al., 2006, p. 54. Dotted arrows indicate possible simultaneous reverse causality.

is associated with social cohesion (and not just through income) (see also Box 5:2). According to the same authors, although social systems may be able to accommodate limited education inequality without eroding social cohesion, beyond a certain level of education inequality political and civil liberties worsen and unrest increases. According to their analysis, countries such as Spain, France or Portugal are at, or close to, the point at which further education inequality will result in a decline in social cohesion. In contrast, those countries with a low level of education inequality, not threatening to social cohesion (Denmark, the Netherlands and Finland) are characterised by comprehensive education systems and extensive welfare systems (see also next section on social mobility).

As mentioned in the introduction, there is little research into the effect of different learning pathways/opportunities on social benefits, and of VET in particular. One of the few studies available is Feinstein et al. (2003), who examined such a relationship in the UK using longitudinal data. Adult learning (including VET) has positive and significant effects on social capital and political attitudes. Vocational accredited qualifications and work-related training also lead to beneficial changes in social and political attitudes, decreasing

racism, authoritarianism and political cynicism. Bynner and Hammond (2004), also using longitudinal data for the UK, found that employer-provided work-related training courses appear to lead to positive non-material benefits for adults who participated between the age of 33 and 42 in terms of civic and political participation, positive social and political attitudes and life satisfaction. In another longitudinal study for Germany, Heinz et al. (1998) show that apprenticeship provides enhanced opportunities for civic and political participation. Finally, there is a role for VET in the rehabilitation of criminals. Wilson et al. (2003) consider that prison inmates participating in VET have significantly lower probability of committing crimes after being released compared to those who do not participate. VET also reduces significantly the risk of entering a criminal career initially: according to Christoffersen et al. (2003) a lack of vocational training opportunities is associated with higher risks of criminal activities. Loeber and Farrington (2000) consider that the lack of vocational opportunities in school is one risk factor associated with delinquency<sup>(44)</sup>.

To complement available research, and in an attempt to investigate further the impact of VET on social cohesion, Preston and Green (in Cedefop, Preston and Green, 2008, p. 171-176) hypothesise that if VET contributes to reducing education inequalities, which in turn impacts positively on

indicators of social cohesion<sup>(45)</sup>, then it would contribute to enhancing social cohesion and promoting economic growth<sup>(46)</sup>. They consider the level of vocational enrolment and general education inequality in selected countries for which time-series data are available<sup>(47)</sup> and find a negative correlation between the two variables. There is, in the countries investigated, a statistically significant relationship between high vocational enrolment and low degrees of education inequality.

Social cohesion is primarily driven by society's values, institutions and inequalities and is not necessarily dependent on high rates of economic growth. However, there is associational (and some causal) evidence of a mutually reinforcing process between growth and social cohesion. Education (both in terms of quantity and quality) is found to be correlated significantly with a number of social cohesion indicators but crucial to social cohesion seem to be not only the level of education in a society but also the distribution of education credentials across such society. Higher levels of education equality are found to be conducive to social cohesion; if VET can contribute to improving equality, it would contribute to improving social cohesion. Initial research findings indicate that this might be the case but further research and analysis is needed to gather more evidence (Cedefop, Preston and Green, 2008).

#### Box 5:4. Education equity and social cohesion

There are several reasons why education inequalities may hamper social cohesion. First, it may increase social distance between individuals and groups (Gradstein and Justman, 2001). Second, inequality (educational or economic) contributes towards individual stress as knowledge and norms are not shared (Wilkinson, 1996). The aggregated effect of such stress is a lack of social cohesion. Third, increased differential in education attainment by social class might lead to increased competition in labour markets and other social arenas and exacerbate class conflict. Fourth, increased education inequality skews democratic processes and outcomes towards individuals and groups who possess higher levels of education (Nie et al., 1996, Campbell, 2006).

*Source:* Cedefop, Preston and Green, 2008, p. 171.

<sup>(44)</sup> Preston and Green warn the reader that studies on the effectiveness of VET in addressing crime are based on non-representative samples (Cedefop, Preston and Green, 2008).

<sup>(45)</sup> With reference to their other research: Cedefop, Green et al., 2004; Green et al., 2006.

<sup>(46)</sup> The relationship between education equity and social cohesion has been addressed by several authors, though it has not been empirically tested in all research (Box 5:4).

<sup>(47)</sup> Belgium, Denmark, Spain and France.



## 5.4. Social mobility and VET <sup>(48)</sup>

Social mobility is the degree to which, in a given society, individuals' offspring and subsequent generations move up and down the social scale <sup>(49)</sup> or the degree to which individuals' social standing can change throughout the course of their lives <sup>(50)</sup>. Because social classes are usually defined in terms of economic resources and interests, an individual's occupation is considered the best single indicator of these <sup>(51)</sup>, providing insight into social position, stratification and class differentiation, as well as into the mobility of individuals across different hierarchical social positions. Classes and occupations are of interest to the extent that they shape individual opportunities in life.

Social mobility can be a consequence of structural changes (such as the emergence of the service sector and the decline of the primary and manufacturing sectors) which create room for (upward) mobility – absolute mobility – and/or of social fluidity between classes (moves up and down) within a relatively stable class and occupation structure.

In theory, rapid technological developments and innovation require upgrading of the labour force <sup>(52)</sup>. Lower-skilled jobs are gradually being replaced by occupations requiring higher qualifications, improving the status of the labour force as a whole. Post-industrial society is characterised by an increase in the middle class and by the fact that knowledge replaces capital as a positioning tool. Knowledge is expected to become the major resource and the knowledge class to occupy the best positions in a society. The emergence of the post-industrial knowledge society is supposed to erode traditional class distinctions and to improve theoretical opportunities

for success and upward mobility for all. However, structural changes can develop in many directions. Expanding employment for those with high qualifications may be accompanied by employment growth in low-grade and low-skilled jobs (polarisation of jobs) <sup>(53)</sup>.

Social fluidity is an indicator of societal openness, i.e. the extent to which chances of access to class positions are equally or unequally distributed. If increasing social fluidity is the objective of a social reform agenda, policy should focus on reducing the inherent dependency between original class positions and destinations. The provision of educational opportunities and resources, cultural capital and income redistribution have a critical role to play here.

The distribution role of education systems along with their ideological function has been considered critical for the reproduction of certain forms of social stratification. However, technological developments call for changes in the structure of the social division of labour. The growing demand for highly qualified personnel favours the expansion of education and training and also the reform of educational institutions to allow access for individuals of all social backgrounds. According to Bourdieu's social reproduction theory (Bourdieu and Passeron, 1977), education institutions reproduce the fundamental structural elements of socioeconomic systems. However this does not prevent or prohibit social fluidity. Education is affected by endogenous and exogenous factors that may induce or enable higher or lower rates of social mobility.

Nevertheless, studies and comparative research on the influence of class origin on children's educational achievement (summarised in Breen, 2004)

<sup>(48)</sup> This section summarises the contribution of Tsakarissanos, Social mobility and VET, to Cedefop's background report (Cedefop, Tsakarissanos, 2008).

<sup>(49)</sup> Social mobility entails both upward and downward movements. A common error when discussing social mobility is to disregard upward mobility negative aspects, along with downward mobility. If people can manage an upward shift in their social position, they can just as easily, or perhaps more easily, slip downward. Another common error is to focus on individual cases rather than on social groups. The fact that individuals who originated from lower classes have managed to reach higher levels of the social scale does not necessarily prove that society in general enjoys high rates of social mobility.

<sup>(50)</sup> Intragenerational mobility is, however, generally less investigated than intergenerational mobility because capturing individuals' life trajectories has far greater data requirements.

<sup>(51)</sup> In studies of social classes, the occupation of an individual determines his/her occupational position *vis-à-vis* other individuals as occupations are categorised hierarchically. This hierarchy of occupations represents the hierarchy between social classes. See, for example, the EGP class schema (Erikson and Goldthorpe, 1992).

<sup>(52)</sup> Cedefop's occupational skill needs forecasts tend to confirm this theory (Cedefop 2008b).

<sup>(53)</sup> Cedefop's latest demand forecasts for 2020 (Cedefop, 2008c) show that, if past trends continue, changes will lead to job growth at the higher and lower levels (with low pay and poor terms and conditions) of the job spectrum. This polarises the demand for jobs with the medium-level occupational layer becoming thinner.

come to the conclusion that the link between social origin and educational opportunities is still strong despite education reforms that had the aim of providing equal opportunities for all. There are thus other more significant factors than education affecting the relationship between class origin and class destination. Given the importance of the social and cultural family background and of personal characteristics in determining education attainment and class destination, the critical question is to what extent and how education can intervene to reverse class inheritance; also critical is if this can happen when pupils have entered education and particularly after reaching secondary levels, either general or vocational. Research findings (summarised by Tsakarissianos, in Cedefop, Tsakarissianos, 2008) tend to confirm that education cannot be used on its own to eliminate social inequalities and counteract decisive factors such as effective social networks, self-confident aspirations and wealth. However, education may still contribute to social fluidity, improving relative chances of mobility across classes and occupational structures. PISA results (OECD, 2004b) have shown that, although social background exerts a powerful influence on student performance, education systems can compensate for inequalities and improve the social mobility potential of less advantaged students. The extent to which such social mobility occurs is subject to internal (education policies) and external (structural changes in production system, labour-market development, etc.) interrelated parameters and variables.

The basic distribution function of education systems is through distinctive education pathways and selection that takes place at the secondary education level (mainly upper secondary). VET prepares learners for careers and professions that are traditionally non-academic and directly relates to a specific trade, occupation or vocation. The general/vocational separation is a projection of the distinction and perceived hierarchical relationship between theory and practice. VET as a separate education pathway has been conceived as an educational orientation that leads the pupil towards the lower end and intermediate destinations in the occupation (class) structure. Thus, as a result of social reproduction, it is generally accepted that

where people are positioned in the social structure affects their education choice: 'middle class children have more to lose in pursuing non-academic routes which are likely to lead to downward mobility than working-class children for whom choosing a non-academic route will likely lead to class maintenance' (Green et al., 2006, p. 139). Reforms have been undertaken in Europe to improve the social standing and attractiveness of VET (see also Chapter 6 in this report), but as Lasonen and Manning rightly noted, the attractiveness of VET depends largely on the opportunities it offers on the labour market in terms of employment, pay, career prospects and actual jobs (Cedefop, Lasonen and Manning, 2001).

The orientation towards vocational tracks, and more precisely towards specific occupations, is at the heart of social reproduction and social mobility (Grelet, 2004). In particular, early tracking and premature selection into different pathways is more open to social inheritance effects. In addition, PISA results have demonstrated that tracking in separate education routes does not improve efficiency and pupil performance – an argument used for justifying tracking – but does reduce education equity<sup>(54)</sup>. Pupils in comprehensive education systems (Finland) tend to perform better at 15 years old than those in selective systems (Germany). Their average performance is higher and the distribution of results (an indicator of educational equity) is narrower. Despite that, according to Tsakarissianos some of the comprehensive reforms have illustrated the limits of educational policies in handling inequalities that find their origins outside the education system as they did not – according to research and empirical findings available – significantly affect relative class inequalities (Cedefop, Tsakarissianos, 2008). Such reforms would rather tend to shift the locus of competition from the access to education opportunities to securing educational qualifications. This is particularly the case in Anglo-Saxon countries and Germany which are characterised by a high degree of school diversity and choice, thus undermining the comprehensive character of education, and a high degree of tracking after compulsory education.

Green et al. (2006) using the results of the PISA and IALS surveys, analyse skills inequalities across countries, showing that these follow distinct geo-

<sup>(54)</sup> Education equity refers to the results/outcomes produced by the education system. 'Equitable' education systems mediate better and thus reduce social inheritance effects.

graphic patterns which can be related to the type of education system that predominates in the region. The most equal education systems have comprehensive education systems at lower secondary level, while ‘among the least equal countries, three have selective secondary systems and two, the US and New Zealand, have highly marketised comprehensive systems, where the emphasis on school choice substantially undermines principles of non-selectivity’ (Green et al., 2006, p. 123). The countries in which social inheritance determines most educational outcomes are those which are either selective at an early stage of secondary education or those with a high degree of schools choices and diversity and a high degree of tracking after the end of compulsory schooling, thus undermining the comprehensive orientation of the system. Countries which produce the most equal education outcomes are typically the Nordic and the East Asian countries. They feature comprehensive systems of education: non-selective schools, mixed ability classes, late subject specialisation and measures to equalise resources between schools (Green et al., 2006, p. 138). Less selection into separate educational tracks leads to lower social inheritance effects.

Additional reforms to modernise VET encompass strategies that attempt to bridge the gap between theory and practice and, signifying the transition towards a post-industrial knowledge economy, favour convergence between general and vocational education. The implications of such policies for social fluidity have yet to be investigated by research. Although several countries have attempted to change the character of VET, there is no evidence that its traditional role has essentially changed. All aspects of VET leading to social stratification have to be reviewed and analysed before reliable policies and measures can be promoted.

### 5.5. Social outcomes of vocational learning

Research on the social outcomes of learning has investigated both microsocial and macrosocial benefits. Microsocial outcomes accrue to the individual as a result of participation in learning, though the relationship may be indirect; examples are better health (Feinstein et al., 2006), civic

and social engagement (Campbell, 2006), social inclusion (Cedefop, Preston and Green, 2008), social capital (Schuller, 2001; OECD-Ceri, 2007) and wellbeing (OECD-Ceri, 2007). Macrosocial benefits extend the focus of analysis to wider units, such as the family, community and nations. Such outcomes cannot be attributed to particular agents but they may accrue from education, training and learning provided to communities and social groups, as in political engagement and social mobility. Society in general may also reap benefits: in welfare, such as reduction in healthcare costs and crime; institutional, such as increased trust and social capital, support to democracy; and social cohesion, environmental and sustainable development awareness (Cedefop, Green et al., 2004; Cedefop, Descy and Tessaring, 2005).

Social benefits cannot be simply equated to non-material outcomes; they have monetary and economic implications. For individuals, social and

Table 5:2. **Social benefits of learning**

For individuals	For social groups and communities	For society
Social inclusion, social capital, civic and social engagement, better health and parenting, etc.	Social status, political, social and cultural participation, social mobility, etc.	Welfare (e.g. health, reduction in crime and poverty), tolerance, trust and social cohesion, awareness of environmental protection and sustainable development, etc.

labour market inclusion, better health and social capital means access to paid employment and avoidance of unemployment or non-participation in the labour market. For societies, the containment of health costs, of unemployment and the reduction of crime have major and direct positive budgetary consequences. It has also been demonstrated that social cohesion, social capital and social infrastructure and democracy are conducive to economic growth (Schuller, 2001; Cedefop, Descy and Tessaring, 2005; OECD-Ceri, 2007; Cedefop, Preston and Green, 2008). Particularly in health matters, attempts have been made to monetarise the benefits of education (see for example Groot and Maassen van den Brink, 2007).

For various reasons, one being data availability, there is limited research that differentiates the social effects of education for individuals by programme orientation (general/vocational) or analyses the impact of learning at different ages and life stages. The Centre for Research on the Wider Benefits of Learning, however, has conducted both quantitative and qualitative life course studies on the social benefits of different types of qualification and learning pathways, including VET. In Section 5.2 and Section 5.3 we have already discussed existing evidence on the impact of VET on social inclusion and elements of social cohesion. In terms of other social benefits, Feinstein et al. (2003) show that adult learning (including VET) has positive and significant effects on health (smoking and exercise). Bynner and Hammond (2004), using longitudinal data for the UK found that vocational accredited courses reduce chances of becoming depressed. In Finland, vocational qualifications are a protective factor preventing youth from engaging in unhealthy behaviour (including smoking, drinking excessive amounts of coffee and not exercising) (Karvonen et al., 2000).

The intergenerational impact of VET on child outcomes is also of importance. In the UK, study in VET courses post-16 has significant effects on children's verbal ability and enables parents to produce a more educationally stimulating home environment. In Germany, all types of education of parents (including VET and apprenticeship) have a positive impact on their children's wages. Jæger and Holm (2007) show that, in Denmark and other Scandinavian countries, the probability that children attain higher tertiary education is much higher when their mothers hold vocational qualifications. In addition, children are much more likely to complete apprenticeship if their fathers have an apprenticeship or a VET qualification.

Some of the mechanisms that generate health benefits through education may be relevant in discussing how different programme orientation and types of learning may generate social benefits for the individual. One of the ways in which education generates health benefits is by influencing self-perceptions such as self-efficacy and self-esteem as well as their valuation of the future (e.g. ability to assess the costs and benefits of preventive medicine) (Feinstein et al., 2006). Education may

enable or empower individuals, allowing them to realise benefits, but may also have negative effects and contribute to developing injurious self-perceptions, learning and development (for example through school failure and negative learning experiences). Education also impacts on the contexts that people come to inhabit (e.g. safe job, better neighbourhood) and their opportunity to choose among contexts, which in turn may determine other social benefits (OECD-Ceri, 2007), as well as their status (Karvonen et al., 2000).

Campbell (2006) identifies three models that explain how education may impact on civic and social engagement and which may be of relevance when investigating the specific role of VET in generating (or not) macrosocial benefits:

- (a) the 'absolute model' is an individual's own educational attainment level which determines specific social outcomes. This applies to the likelihood of voting: an overall increase in education leads to an overall increase of this particular social outcome. If VET contributes to overall increase in education attainment, it contributes to generating specific social benefits. However, it could be that some types of education are more conducive to specific social outcomes than others. This would require further investigation;
- (b) the 'relative or positional model' is an individual's level or type of education relative to others which explains an observed relationship between education and a social outcome. This mechanism affects active participation in politics, i.e. more education drives political engagement only to the extent that education attainment results in a higher position within the social hierarchy. Disparities in educational outcomes over time mean that those at the top of the qualification distribution are increasingly active in political life, whereas those at the bottom are increasingly disaffected and marginalised (Green et al., 2006, p. 57). In this model, education is a signal and serves the structural needs of social systems (OECD-Ceri, 2007). Following this model, increasing levels of education, preserving social inheritance effects in the distribution of outcomes, will not increase the social benefits concerned;
- (c) the 'cumulative model' realising social benefits is conditional on the average level of education

of the individual's peers but also to the equality in attainment across groups. Living in an environment with a higher average level of education overall increases an individual's interpersonal trust. Such social outcomes are, therefore, sensitive to education inequality as Green et al. have also observed (Cedefop, Green et al., 2004; Green et al., 2006). In this context, it is the potential role of VET in generating education (in)equality that is of interest.

The above discussion of how VET connects to the various mechanisms that lead to social benefits at micro and macro levels is still mainly hypothetical and requires testing in future research.

## 5.6. Conclusions

Green et al. (2006, p. 141-174) and Preston and Green (in Cedefop, Preston and Green, 2008, p. 177), propose conceptual models of economic competitiveness and social cohesion and analyse their relations to skill levels and distribution, taking into account VET and lifelong learning. Discussing this typology is particularly useful as a conclusion to this chapter, as it allows us to provide an overall picture of the various social dimensions discussed in this chapter – inclusion, cohesion and mobility – and of the role and relationship that VET may have with these.

The typology groups west European countries into three models. The economic and social characteristics of the countries represented in these models demonstrate a pattern of regional clustering on several indicators, with considerable similarities in each group and marked average differences between the groups on several measures. Further, the education systems of each region have sufficient elements in common and are sufficiently distinctive from those in the other groups for a comparative exercise to make sense.

### 5.6.1. Neo-liberal model

The neo-liberal model, typically the Anglo-Saxon economies, relies primarily on market mechanisms. In these economies, innovation and productivity rely on flexible labour markets, limited regulation, high employment rates and long working hours. They display greater (income) inequality, low levels

of social expenditure as well as minimal public services. Measures of social cohesion also tend to be lower than in other models. This model is associated with education systems that polarise skill distribution, combining high skill elites – serving the knowledge-intensive industry – with a substantial number of low-skilled employees working in companies that compete on price rather than quality and, therefore, rely on low-cost labour.

Although education systems in English-speaking countries vary considerably, they have historically been highly decentralised, leaving significant autonomy to local authorities, schools and teachers. The UK, for example, has introduced competitive quasi-markets in public education, thus increasing school diversity and choice and undermining the non-selective nature of formally comprehensive primary and lower secondary systems. After the end of compulsory schooling, a high degree of tracking characterises secondary schools. Curricula encourage high levels of specialisation and individualisation. In terms of social inclusion, employment is the priority of VET rather than occupational socialisation or the formation of professional identities. In terms of social cohesion, VET tends to promote competence and employability rather than broader forms of citizenship. The relative high degree of participation in adult learning in Anglo-Saxon countries is characterised by a Mathew effect, i.e. those who participate are those who already have higher credentials. Thus adult learning tends to exacerbate inequalities inherited from initial education and training. The outcome of the skill formation systems in neo-liberal economies is a highly polarised high skills/low skills labour force, high education inequality.

### 5.6.2. Social market model

The social market model is represented by the core European countries. In these countries, the effects of the market are moderated by regulation and interest groups, mainly the social partners. Market regulation is accompanied by high social spending, high quality public services, higher (income) equality and social cohesion than in Anglo-Saxon countries. However, regulation, high social costs and lower employment are detrimental to the overall productivity and growth. Such economies rely on a wide dispersion of intermediate skills throughout the workforce to

serve the needs of diversified quality production in manufacturing industries.

Within the social market economies of the core Europe, two types of education system can be identified:

- (a) France and the Mediterranean States have in common centralised systems and comprehensive primary and secondary schools. Most compulsory education takes place in school-based general or vocational high schools, with residual apprenticeship systems. Knowledge transmission follows the model of encyclopaedic education. Examination systems are largely State-controlled. In terms of social cohesion, such systems tend to prioritise value transmission also in VET. The French VET model also emphasises the need to cultivate technique and general culture as means for social inclusion;
- (b) German-speaking countries – and countries geographically proximate to Germany – typically devote the control of the education system to the regions. Post-compulsory education takes place largely in apprenticeship – organised through social partnership – which forms the dominant pathway from school to work. Secondary schooling is selective, (early) tracking those with different abilities in different kinds of pathways and schools. Higher education is also organised in general and technical universities. Finally these countries tend to display a high degree of specialisation in vocational diplomas. Professional socialisation through VET and the development of a vocation (Beruf) are considered particularly important, but socialisation as an active citizen is not neglected. The high inequality of skill outcomes at 15 years old (as attested by the PISA results) tend, however, not to be reflected in the adult population. This may be the result of a strong apprenticeship system, which provides three additional years of combined general and vocational education and thus mitigates the effect of the selective systems on skill outcomes <sup>(55)</sup>.

The educational outcomes of core European countries are characterised by narrow distribution of skills, with smaller skilled elites and low-skilled workforce, and a large body of people holding a (vocational) intermediate qualification. This, combined with strong regulation of the labour-market, tends to reduce wage inequality and promote social cohesion. However, labour-market regulation raises the costs of job creation and destruction (hiring and firing costs) and is, therefore, likely to generate higher unemployment. Also, qualification requirements for entry into jobs facilitate transitions from school to work for those holding a qualification but create strong barriers to the employment for the non-qualified. Although the latter group tends to be proportionally smaller than in neo-liberal economies, they are likely to be more disadvantaged. A Matthew effect being also at work in these countries, adult learning contributes to reinforcing inequalities. Thus, despite a good level of wage equality, the gap between the employed and the unemployed tends to undermine social cohesion.

### 5.6.3. Nordic social-democratic model

The Nordic countries simultaneously achieve high productivity, high employment rates and high levels of (income) equality and of social cohesion. Notable features of these systems are centralised trade union bargaining and active labour-market policies targeting the unemployed and low-skilled at-risk employees. However, high aggregate levels of skills both in the young and adult population and a more equal distribution of skills in these countries seem also to be key elements in achieving both high growth and social cohesion. The high uptake of adult learning contributes to promoting higher employment rates while lower education inequality contributes to low income inequality.

The Nordic countries largely regulate education at local level but within a central government framework which sets common goals. Post-compulsory education is heavily publicly funded and involves strong social partnership with regards

<sup>(55)</sup> This hypothesis would need to be tested by assessing literacy and numeracy of young people at 18-19 years old, after the end of apprenticeship. This is one objective of the international project for large scale assessment of VET (VET-LSA) initiated by the German Federal Ministry of Education. The project foresees assessment of basic, generic and occupational competences at the exit of upper secondary education, comparatively assessing the outcomes of VET in different countries for selected occupations. The project is continuing and eight countries currently participate in policy steering of the project (Austria, Denmark, Finland, Germany, Norway, Slovenia, Sweden and Switzerland).

to VET. Compulsory education is organised in a unique system of comprehensive primary/secondary schools in which encyclopaedic knowledge tradition and broad curricula prevail. Most significantly, adult learning is more prevalent in the Nordic countries than in any other region and is strongly underpinned by the social partners and the State, with high levels of State subsidy, particularly for those with low levels of education and/or for the unemployed. Employer-funded training is also comparatively high. In terms of social inclusion, VET is geared towards the needs of socially excluded groups with the aim of delivering a high minimum standard of education and training for all. Equity is an important social principle and is the basis for the social cohesion model in the Nordic countries. Finally, participation in adult learning is more evenly distributed across the population, with high participation rates of low-skilled and older adults. The result is higher levels of equity in skill distribution both among the adult and the young population.

According to Green et al. (2006, p. 167-172), three dimensions of educational outcomes seem to be crucial for achieving high levels of both economic and social outcomes: the overall supply of skills for the labour market; the distribution of these skills; and the rate of participation in adult learning. The overall level of skills in the population is likely to contribute to high overall labour productivity. The distribution of these skills, whether broad or narrow, will affect levels of income and status inequality among employees which, together with the redistribution effects of welfare systems, will impact on social cohesion. Finally, lifelong learning systems with high levels of adult participation in learning, especially through active labour-market policies, will promote high rates of employment which are one way of raising social cohesion, through social inclusion.

#### 5.6.4. The specific contribution of VET

The specific role of VET in promoting and sustaining social inclusion and cohesion is not yet firmly established. However, its institutional role *vis-à-vis* increasing or reducing social inheritance effects, its orientation towards broader forms of inclusion than pure employment, its contribution towards transmitting civic values and in mitigat-

ing (or not) skill inequalities, seem to be part of the mechanisms by which concomitant models of economic growth and social cohesion, such as the Lisbon goal, may be reached or not with a specific contribution from VET.

VET cannot be considered a panacea in combating problems of exclusion or of lack of social cohesion. Although VET has an important role in increasing labour-market participation, wider issues of social inclusion, such as citizenship and social capital, should also be considered. In some countries VET plays a role of vocational socialisation that extends beyond labour-market inclusion. A narrow focus on social inclusion through employment is not able to render the complexity of the dynamics of exclusion from social life and tends to reduce the likelihood of generating other social benefits of education.

Customer-oriented designs of VET for the socially excluded, using focus groups and other techniques to involve participants in the governance of VET, seem to be more successful in terms of combating exclusion than targeted VET programmes. Such programmes, when targeted on the basis of client class, race, family type or disability, carry deadweight effects as not all members of these groups are necessarily excluded and also prevent those who do not fit the profile, but are victims of some forms of exclusion, from participating in the action. In addition, even apparently homogenous groups of socially excluded are heterogeneous in terms of skill and qualification needs. Therefore 'integrative' forms of VET, which tailor provision to individual needs, are better adapted than targeting. Finally, targeting VET programmes to specific groups, rather than fostering their integration in mainstream VET is also a factor of social segregation in itself, which tends to maintain those groups separate.

In terms of improving social cohesion, value formation, institutional integrity and reducing inequalities are areas where education and VET can make a substantial contribution. Although education equity seems important in fostering civic and political rights, both leading to social cohesion, it is not proven at this stage whether VET contributes to general education equity. Early tracking into differentiated general and vocational pathways, instead of delaying tracking and promoting equity of education outcomes through comprehensive

education, contributes to social reproduction and increases social inheritance effects. In doing so, it tends to maintain education inequity and thus is not conducive of social cohesion.

Maintaining social cohesion requires not only social inclusion through employment but also reasonable levels of income equality. There are

models in Europe that promote both economic growth and high social cohesion and are, therefore, closer to the Lisbon goals. The education, VET and adult learning systems in the Nordic countries seem to play a vital role in achieving this as they promote both high overall skill outcomes as well as education equity.



# Part II

Trends in vocational education and training  
modernisation

## 6. Improving the image and attractiveness of VET

### 6.1. Introduction

This chapter deals with raising the attractiveness of VET. It looks at the current situation of VET attractiveness in the EU, reviews the research literature on recent national policies on VET attractiveness, and synthesises the major recommendations for future research and policies arising from this review.

The Maastricht, Helsinki and Bordeaux communiqués acknowledged participation in VET as a priority to achieve the aims agreed by Member States in the Copenhagen process and the Lisbon objectives. Within the Copenhagen framework, VET is deemed as crucial to developing social inclusion, qualifications, employability, economic competitiveness, sustainable economic growth, and to fostering lifelong learning and the knowledge-based economy. VET is thus recognised as having two roles. Its traditional role is to provide people interested in acquiring technical and vocational qualifications with a high quality and appropriate offer. In this role, VET can contribute to the Lisbon objectives through offering an increased number of training places to standard students interested in vocational pathways. VET's new role is to contribute to the whole skilled workforce as necessary to reach the Lisbon goals by offering educational opportunities to people who, otherwise, would not have participated in education and training beyond the compulsory school age <sup>(56)</sup>.

However, the idea has emerged that simply offering programmes or improving the functioning of VET systems is not enough to encourage participation in VET. Stakeholders have realised that, to serve the Lisbon goals effectively, the reforms proposed and undertaken should contribute to

making VET systems more attractive. For example, reforms which would be limited to streamlining VET institution purchasing or procurement procedures or accounting practices would not, in themselves, make VET more attractive to students and, therefore, could not have significant effect on increasing participation. In the Maastricht and Helsinki communiqués, improving attractiveness has therefore been put forward as crucial to increasing participation in VET.

#### 6.1.1. The concept of VET attractiveness

VET attractiveness has never been defined in research literature so far, so a definition is a good place to start. As outlined by Lasonen and Manning, the term 'attractiveness' is different from that of 'standing', which is more targeted at reflecting educational levels and achievements (Cedefop, Lasonen and Manning, 2001). In a very general sense, attractiveness can be defined as the quality of raising positive interest. In its least demanding sense, VET attractiveness means that VET is of interest to people, i.e. people express attention to or curiosity about it, have some knowledge of it, consider its existence legitimate in the educational landscape, and have a good opinion of it and of VET qualifications holders. What is at stake there is the image of VET. In a more demanding sense, VET attractiveness is defined by the tendency of people to use VET to reach their personal goals. In this sense, VET is attractive if people see the vocational path as a serious option when they consider further/alternative studies (especially for better career opportunities) or to advise relatives, and if employers gladly recruit applicants from VET pathways. When VET is attractive, most – if not all – VET stakeholders (potential learners,

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<sup>(56)</sup> The rationale behind this new role is that VET is a factor of employability and full employment of the unskilled and low-skilled. By offering a second chance of education and labour-market access to groups at risk of social and economic exclusion, VET would contribute to enhancing social cohesion and to reinforcing lifelong learning. As a consequence of increasing employment of the unskilled and low skilled, the total skilled workforce would expand, which is expected to provide the economy with the sufficient skilled labour necessary to make economic growth sustainable. Provided that VET increases the supply of skilled workers beyond the demand level, the wages for skilled labour would stabilise at levels ensuring economic competitiveness. The role of VET in achieving these goals is all the more important when the ageing of population and rapid skill obsolescence resulting from technological innovations and organisational change increase the need for skilled workers. However, it should be noted that VET is not only a second chance for low-skilled, but should also provide for excellence at higher level (ISCED 5B).

education and training providers, public authorities, companies, social partners and social groups)<sup>(57)</sup> take part in policy-steering of the VET system, have their view taken into consideration, have an interest in the system development, and cooperate to ensure that VET develops in line with their own needs. Such is the partnership dimension of VET attractiveness. As Leney et al. (2004, p. 69) state: ‘attractiveness refers to stakeholders’ opinions and is the outcome of opening systems to the needs and ideas of learners and other stakeholders directly to heighten the responsiveness of systems to the outer world’.

Attractiveness in its strong sense can be seen as a cumulative process. People use the VET system if it is attractive but, in turn, using it increases its attractiveness. This results from the fact that the VET system will be of more use to a stakeholder when many other partners also use the system. For example, the more attractive (in terms of image and use) VET is to employers, the more they are willing to offer good employment opportunities and wages, and the higher VET’s attractiveness to potential and actual students in turn. Conversely, as attractive as VET could initially appear to students, lack of interest from employers would result in poor access to employment, and finally in student loss of interest. Ultimately, VET attractiveness critically depends on the width of the range of stakeholders involved, and on the extent to which they are involved.

Bainbridge et al. (2004, p. 56) pointed out that involving social partners in VET through social dialogue has long been a policy priority in the EU (Cedefop, Bainbridge, Murray et al., 2004, p. 56). This tendency has been reinforced more recently by a global rethinking of governance which has been taking place since the 1990s. As Billett and Seddon (2004) explained, due to the failure of the responsiveness of centralised processes, growing emphasis is being put on local partnerships, deemed more able to reconcile conflicting approaches, build mutuality of interests, promote responsiveness, realise the consequences of action, implement decisions and conduct local decision-making. This also applies

to VET, where local partnership tends to become a ‘hallmark of mature service delivery’ (Billett and Seddon, 2004, p. 55).

VET attractiveness can be approached per se or in relative terms, with or without reference to the attractiveness of other educational pathways. The Maastricht communiqué points out that ‘VET is increasingly taking place at all educational levels and, therefore, the parity of esteem and links between VET and general education, in particular with higher education, need to be fostered [...]’ (European Commission, 2004b, p. 2). The decision to enrol in a vocational pathway clearly depends on the prestige of alternative educational tracks, especially on that of competing higher academic education routes. Not taking the comparative dimension on board would entail risk of flawed appreciation, for example in considering as satisfactory an increase in VET participation while ignoring a far larger increase in general education. Therefore, this chapter will consider not only the attractiveness but also the relative attractiveness of VET, i.e. the attractiveness of VET as compared with that of general education. This aspect is sometimes referred to through the term of VET status (Leney et al. 2004, p. 84-86). The point here is parity of esteem. The approach in terms of relative attractiveness is specifically targeted at considering how VET can ensure increasing the skilled workforce through offering an alternative to those potential students who, more interested in or better fitted for VET, would nevertheless have chosen general education (even if this offered fewer chances of success).

Finally, attractiveness should not be confused with participation. Attractiveness can be a factor driving participation in education and training, and participation can be an indicator to measure attractiveness. But participation can also be disconnected from attractiveness, for example in the case of elitist systems which cream-off students and push to VET those students who are not permitted to pursue general education. Participation also depends on other factors, such as supply: participation in an attractive VET system can be low if places in VET institutions are limited.

<sup>(57)</sup> Notably the middle class (see Chapter 5) and persons with disabilities, people with an immigrant background, Roma population, older workers, early school leavers, people with low levels of education and qualifications, the unemployed, marginalised population groups, those living in disadvantaged areas or outlying regions, people with learning difficulties and gender parity promotion organisations.

### 6.1.2. Focus of analysis

This chapter addresses the issue of how to increase the (relative) attractiveness of VET in the EU in the perspective of the Lisbon objectives. The study will focus on initial VET (IVET). The rationale for this choice is that the issue of VET image and the approach in terms of relative attractiveness are not so relevant when it comes to continuing VET (CVET). It can be argued that the image of CVET is not a determinant of the workforce involvement in VET, yet the usefulness of VET is. As Leney et al. (2004, p. 74-77) showed, participation in CVET is mainly a matter of return on investment in learning and of recognition of non-formal/informal learning, rather than a question of image. At the same time, VET is not really challenged by general education at post-initial level, so approaching CVET expansion in terms of relative attractiveness would be somewhat irrelevant. As illustrated by the Eurobarometer survey of European opinions on VET (European Commission, 2005b, p. 29), the majority (72.5 %) of people from the labour force who have to undertake further studies choose vocational training (within or outside the workplace) rather than general education (20 %) <sup>(58)</sup>; the remaining 7.5 % concern courses for jobseekers. This prevalence of VET in post-initial education and training can be explained by the importance of such concerns as improvement of self-performance in current job, career advancement and job searching, in the motivation of adult demand for education. In addition, it is noteworthy that adult involvement in VET often results from pressures by employers (in the case of employees) and unemployment agencies (as regards jobseekers), which also points towards the inadequacy of addressing CVET enhancement through the lens of attractiveness. Therefore, it is clear that attractiveness is not the same at initial and post-initial levels. As a consequence, this study on the attractiveness of VET will focus on IVET, at both secondary and tertiary levels.

The remainder of the chapter is organised as follows. Section 6.2 presents a review of the research literature on the determinants of educational pathway attractiveness. Section 6.3 is devoted to sketching some current major features of participation in IVET in the EU. Section

6.4 describes the major reforms performed or underway in the Member States. Drawing on this review, Section 6.5 outlines some suggestions for research and policy in the perspective of the Lisbon objectives. Section 6.6 concludes.

## 6.2. Determinants of educational pathway attractiveness

The attractiveness of educational institutions, settings or tracks has often been addressed in the literature of post-16 educational choices and in the education administration and management (Dick and Hanna, 2002). In the search for levers to improve educational attractiveness, three groups of possible determinants can be distinguished.

The first group of determinants concerns schooling content and context. Regarding contents, selectivity of access matters. Conlon (2005), Desjardins et al. (1999) and Hossler et al. (1989) have shown that more selectivity attracts high ability students. On the context side, the recreational options proposed (Weiler, 1996); the social origin of the school students (Lankford and Wyckoff, 1992); the institutional control, i.e. public or private (Desjardins et al., 1999; Hossler et al., 1989); and the reputation of the institution, track or programme (Desjardins et al., 1999; Hossler et al., 1989) have proved influential. The style of governance matters too: quality assurance and transparency were identified as sources of attraction (Tammaro et al., 2005).

A second group is economic determinants, with categories of educational pathways or institutions being encouraged or discouraged through tuition fees or tax arrangements. Hossler et al. (1989) have shown that, unsurprisingly, the availability of financial aid attracts students. Hilmer (1998) has demonstrated that, in the US, an increase in university fees can shift student enrolment choice from universities to community colleges, and vice-versa; tax changes might have similar effects. For example, Flowers (1988) suggested that, in the US, tuition tax credits might increase the relative economic attractiveness of private education compared with public institutions. Another paper

<sup>(58)</sup> Especially due to the difficulty for employed people in opting for general/higher education where some years are necessary to get a qualification.

(Lincoln and Walker, 1993) demonstrated how a graduate tax system, linking public funded study grants while studying and increased taxes during working life, might raise the attractiveness of education, which also suggests ways for differentiating economic attractiveness of different pathways through tax incentives<sup>(59)</sup>.

The third group of potential determinants of attractiveness is focused on student educational and labour-market expectations and prospects. The existence of possibilities for further education and career development has been considered a factor of attractiveness (Cedefop, Descy and Tessaring, 2001a, p. 76; Cedefop, Lasonen and Manning, 2001). A good example for education is Austria where the provision of opportunities to access higher education has proved a strong incentive for students to engage in VET pathways (Schneeberger, 2002). For employment, the presence of information and communication technologies and of foreign languages in curricula and training programmes (Smits and Zwick, 2004), unemployment among the institution/track leavers, their earnings, job satisfaction, and the job-education skill match (Lavoie and Ross, 1999) can also be decisive factors. For example, Conlon (2005, p. 299-307) observed from data from the UK a tendency of young people to choose vocational training pathways in the north, the North and West Midlands, the west, the east, Wales and Scotland, yet a preference for undertaking academic studies in London, the South East and southern regions. This suggests that pathways are the more attractive the more they match the structure of the local economy and labour market, thus promising employment opportunities. For a long time, education economists have been analysing how people take account of these employment perspectives to make an informed education investment decision, mobilising the human capital theory (Becker, 1964), the signalling theory (Spence, 1973), and the Mincerian earnings function methodology for empirical estimations (Mincer, 1974; Psacharopoulos, 2006).

However, these influences are not always straightforward, clear-cut, nor one-sided, depending on individuals and social characteristics.

Turner and Bowen (1999), observed that both genders are not similarly attracted by the same study subjects or institutional features. Similarly, Lasonen and Gordon suggested in their literature review that social origin would probably also mediate possible attraction effects (Cedefop, Lasonen and Gordon, forthcoming).

### 6.3. Current IVET attractiveness in the EU

Three types of indicator can be used to measure the degree of attraction of IVET. First, though participation is not a comprehensive indicator, attractiveness of IVET to current and prospective students can be proxied by the number of people enrolled in IVET programmes. Second, attractiveness to employers can be approached through unemployment rates and entry-level wages among job applicants from IVET routes. Third, public opinion on IVET can be taken into account, since it can influence the behaviours of both employers and education and training seekers. Though these indicators can only serve as proxies and are to be taken with caution, they are useful since there exists no specific indicator of attractiveness.

#### 6.3.1. Attraction of IVET to potential entrants

The degree to which students are attracted to VET can be monitored through comparative data of enrolment and entry in vocational and general education at secondary and tertiary levels.

##### 6.3.1.1. *Enrolment in vocational and general education at upper secondary level*

As can be seen from Table 6:1, vocational programmes (including prevocational ones) attract more learners than general education at upper secondary level in the EU as a whole. The attraction of VET at upper secondary level is higher in the EU than in OECD countries on average, with exceptions of Australia and Switzerland. In most Member States, enrolment in upper secondary IVET is stable or increasing since 2002, except in Poland where it is clearly decreasing.

<sup>(59)</sup> In CVT, several Cedefop studies show that financing mechanisms might improve the attractiveness of VET for employers (Cedefop, 2008f, 2009c, 2009d).

Table 6.1. **Enrolment into upper secondary vocational and general education in the EU and in some major competitor countries 2002-05**

	Programme orientation											
	General (1)				Prevocational (2)				Vocational (3)			
	2002	2003	2004	2005	2002	2003	2004	2005	2002	2003	2004	2005
BE	30.32	9.7	31.8	30.4	a	a	a	a	69.7	70.3	68.2	69.6
CZ	19.62	0.5	20.6	20.5	0.2	0.2	0.2	0.1	80.2	79.3	79.3	79.4
DK	47.0	46.4	53.2	52.1	a	0.3	a	a	53.0	53.3	46.8	47.9
DE	37.03	7.8	38.8	39.7	a	a	a	a	63.0	62.2	61.2	60.3
IE	72.77	1.7	66.5	65.7	27.3	28.3	33.5	30.5	a	a	a	3.8
EL	60.0	64.0	66.0	64.0	a	a	a	a	40.0	36.0	34.0	36.0
ES	62.0	62.8	61.3	57.4	a	n	a	n	38.0	37.2	38.7	42.6
FR	43.7	43.6	43.5	43.6	a	a	a	a	56.3	56.4	56.5	56.4
IT	35.2	36.2	37.2	38.5	38.0	37.8	37.3	36.6	26.8	26.0	25.5	24.9
LU	36.0	35.3	36.1	36.6	a	a	a	a	64.0	64.7	63.9	63.4
HU	50.3	50.2	76.3	75.9	36.8	37.0	11.6	10.9	12.8	12.8	12.1	13.2
NL	30.8	30.9	30.9	31.8	a	a	a	a	69.2	69.1	69.1	68.2
AT	21.0	20.8	21.4	21.5	6.8	7.4	6.2	6.2	72.3	71.8	72.4	72.3
PL	39.1	45.7	50.5	55.0	a	a	a	a	60.9	54.3	49.5	45.0
PT	71.2	71.5	71.5	69.0	a	0.4	19.4	20.5	28.8	28.1	9.1	10.5
SK	23.6	24.6	25.9	25.8	a	a	a	a	76.4	75.4	74.1	74.2
FI	42.8	41.2	39.9	36.1	a	a	a	a	57.2	58.8	60.1	63.9
SE	50.4	47.1	46.6	46.4	a	a	a	0.8	49.6	52.9	53.4	52.7
UK	27.9	30.8	28.5	27.8	x(3)	x(3)	x(3)	x(3)	72.1	69.2	71.5	72.2
EU-19 average	42.13*	42.67*	45.8	44.1			6.0	5.9			48.5	50.3
OECD average	50.6	51.0	50.7	50.3	4.0	4.0	4.1	4.2	45.5	45.1	45.4	47.5
AU	37.0	35.8	37.5	38.5	a	a	a	a	63.0	64.2	62.5	61.5
CA	m	m	m	m	m	m	m	m	m	m	m	m
CH	35.4	35.0	35.2	35.3	a	a	a	a	64.6	65.0	64.8	64.7
JP	74.3	74.5	75.4	75.3	0.8	0.8	0.8	0.9	24.9	24.7	23.8	23.9
KR	67.9	69.3	70.5	71.5	a	a	a	a	32.1	30.7	29.5	28.5
US	100.0	100.0	100.0	100.0	a	a	a	a	a	a	a	a

Notes: \* unweighted arithmetic mean computed by authors.  
a category not applicable.  
m data not available.  
x(j) data included in category j.  
n data value negligible.

Source: OECD (2004c; 2005c; 2006a; 2007b; Chapters C). Enrolment in a category is the percentage of all students in country's upper secondary institutions which are enrolled in this category.

### 6.3.1.2. *Entry into vocational and general education at tertiary level*

The landscape is radically different at tertiary level. Table 6:2 suggests that in the Member States in general, vocational programmes are far less attractive than academic ones to new entrants in higher education. Low entry rates in tertiary VET can be observed in OECD countries in general too (with exception of South Korea), the average

rates being just slightly higher in the OECD than in the EU. In the OECD, as in the EU, the entry-rate gap between academic education and VET has been increasing in the last decade. This trend was also observed by Dunkel et al. (Cedefop, Dunkel et al., 2009).

As with most comparative country data, these have to be taken with some caution since the societal and institutional determinants of entering

VET may differ between countries, and also because classification practices can vary from one country to another. For example, McCoshan et al. (2007) have shown that in the Netherlands, most tertiary vocational programmes are classified as type A (i.e. academic), but enrolment by type of institution shows, participation as far higher in vocational institutes than in universities (63 % versus 37 %

in school year 2004/05). However, statistics based on such a distinction between IVET institutions and universities are lacking for most countries. The general impression based on data currently available is that, in the EU, the attraction of IVET to students, while seemingly well established in secondary education, needs to be improved at tertiary level if the Lisbon goals are to be reached.

Table 6:2. **Net entry rates into tertiary vocational and general education in the EU and in some major competitor countries 1995-2005**

	Tertiary-type A Theoretically based/research preparatory programmes and advanced research programmes (1)							Tertiary-type B Practical/technical/occupationally specific programmes (2)						
	1995	2000	2001	2002	2003	2004	2005	1995	2000	2001	2002	2003	2004	2005
BE	m	m	32	33	33	34	33	m	m	36	34	33	35	34
CZ	m	25	30	30	33	38	41	m	9	7	8	9	10	8
DK	40	52	54	53	57	55	57	33	28	30	25	22	21	23
DE	26	30	32	35	36	37	36	15	15	15	16	16	15	14
IE	m	32	39	39	41	44	45	m	26	19	18	17	17	14
EL	15	30	30	33	35	35	43	5	21	20	21	22	24	13
ES	m	47	47	49	46	44	43	m	15	19	19	21	22	22
FR	m	37	m	37	39	m	m	m	21	m	22	34	m	m
IT*	m	39	44	50	54	55	56	m	1	1	1	1	1	a
LU	m	m	m	m	m	m	m	m	m	m	m	m	m	m
HU	m	64	56	62	69	68	68	m	1	3	4	7	9	11
NL	44	53	54	54	52	56	59	n	1	n	1	1	n	n
AT	27	34	34	31	34	37	37	m	m	m	m	8	9	9
PL	36	65	68	71	70	71	76	1	1	1	1	1	1	1
PT	m	m	m	m	m	m	m	m	m	m	m	m	m	m
SK	28	37	40	43	40	47	59	1	3	3	3	3	2	2
FI	39	71	72	71	73	73	73	32	a	a	a	a	a	a
SE	57	67	69	75	80	79	76	m	7	6	6	7	8	7
UK	m	47	46	48	48	52	51	m	29	30	27	30	28	28
EU-19 average	35	46	47	49	50	52	53	12	11	13	12	12	12	11
OECD average	37	47	48	52	53	53	54	18	15	16	16	16	15	15
AU	m	59	65	77	68	70	82	m	m	m	m	m	m	m
CA	m	m	m	m	m	m	m	m	m	m	m	m	m	m
CH	17	29	33	35	38	38	37	29	14	13	14	17	17	16
JP*	30	35	37	39	40	40	41	31	29	29	29	29	30	30
KR*	41	45	46	46	47	49	51	27	51	52	51	47	47	48
US	m	43	42	64	63	63	64	m	14	13	x(1)	x(1)	x(1)	x(1)

Notes: \* gross entry rates.  
a category not applicable.  
m data not available.  
x(j) data included in category j.  
n data value negligible.

Source: OECD (2007b, p. 295). Net entry rates are calculated as follows:  
number of new entrants in tertiary education/total population  
of same age.

### 6.3.2. Employers attitude towards and IVET

The value of IVET for employers can be captured through their recruitment practices. Two comparative indicators might be used here: entry-level unemployment rates and earnings. However, the only unemployment and earnings international systematic data available relate to the adult labour force (aged 25-64 years), are not detailed by age, and do not cover the entry-level first ages (15-25). Therefore, this subsection will focus on the attitude of employers to the total workforce of VET qualifications holders.

#### 6.3.2.1. Unemployment rates for those with vocational or general education

An overview of data for both genders (Table 6:3) indicates that, in general in the EU and in the OECD countries (2003-05), unemployment rates are lower among those with general education backgrounds than among those from VET. This confirms observations from other surveys (European Commission, 2007e, p. 119) that, though VET might boost labour-market access of young people (aged 18-24 years), this positive effect is no longer observable at later ages and/or at further career stages. However, the employability effect of VET may continue beyond entry-stages in some particular contexts. In the data used, three patterns of employer preference for vocational

qualifications holders (both men and women) at adult age (25-64) could be observed.

In the first case, employers seem to prefer candidates with vocational background so long as the qualifications looked for are of upper secondary level at most. When it comes to tertiary level qualifications, preference for VET disappears and both types of background have comparable employment opportunities. The data suggest that Austria (2003-04) might illustrate this situation. In the second pattern, employers prefer candidates with vocational backgrounds only if their qualifications are of tertiary level. In this instance, there is no preference for job applicants with only upper secondary vocational qualifications. Such seems to be the case in France and Belgium. Heijke et al. (2003) have also reported a comparable preference for applicants from higher education with vocational competences in the Netherlands. A third pattern, characterised by an overall preference for VET seems to be illustrated by Switzerland, where candidates coming from either secondary or tertiary VET have lower unemployment rates than those from general education. Such cases are marginal and the whole picture suggests that employers, in the major OECD countries in general and in the EU in particular, are much keener to recruit workers with general rather than vocational education.

Table 6:3. Unemployment rates by type of educational background in the EU and in some major competitor countries 2003-05

		2003					2004					2005				
		Upper secondary education			Tertiary education		Upper secondary education			Tertiary education		Upper secondary education			Tertiary education	
		ISCED 3C Short (1)	ISCED 3C Long/3B (2)	ISCE D 3A (3)	Type B (4)	Type A and advanced research (5)	ISCED 3C Short (1)	ISCED 3C Long/3B (2)	ISCE D 3A (3)	Type B (4)	Type A and advanced research (5)	ISCED 3C Short (1)	ISCED 3C Long/3B (2)	ISCE D 3A (3)	Type B (4)	Type A and advanced research (5)
BE	Men	a	7.4	4.7	3.4	3.6	a	7.5	4.8	3.6	3.9	a	7.0	5.0	3.3	3.9
	Women	a	10.5	7.8	3.2	4.2	a	10.8	8.9	3.8	4.3	a	12.1	7.4	3.6	4.3
CZ	Men	9.9	4.9	2.8	–	1.7	a	5.9	3.2	x(5)	2.1	a	5.5	2.8	x(5)	1.9
	Women	11.8	11.8	5.8	–	2.3	a	12.3	5.0	x(5)	1.8	a	12.1	5.5	x(5)	2.1
DK	Men	–	3.5	–	5.2	4.1	5.1	3.9	8.2	6.9	2.9	c	3.4	c	2.9	3.8
	Women	–	5.5	–	5.9	4.8	6.4	5.4	6.6	4.7	3.5	c	4.7	5.8	5.3	3.5
DE	Men	a	10.9	8.5	5.1	4.5	a	12.3	9.7	5.6	5.1	a	11.9	11.0	5.7	5.0
	Women	a	10.5	10.3	6.8	5.4	a	11.3	10.0	6.0	6.0	a	11.3	10.0	6.1	5.7
IE	Men	–	a	2.7	3.1	2.4	–	a	3.3	2.6	1.9	c	a	3.0	c	1.9
	Women	–	a	3.1	2.7	2.3	–	a	2.8	2.4	1.8	c	a	3.1	c	1.7
EL	Men	5.7	6.7	4.9	4.7	3.7	3.4	5.7	5.6	3.1	4.8	c	c	3.8	4.4	4.6
	Women	25.3	19.9	13.0	7.5	7.6	19.1	35.3	15.1	11.6	9.5	c	23.2	14.0	10.3	9.9



		2003					2004					2005				
		Upper secondary education		Tertiary education			Upper secondary education		Tertiary education			Upper secondary education		Tertiary education		
		ISCED 3C Short (1)	ISCED 3C Long/3B (2)	ISCE D 3A (3)	Type B (4)	Type A and advanced research (5)	ISCED 3C Short (1)	ISCED 3C Long/3B (2)	ISCE D 3A (3)	Type B (4)	Type A and advanced research (5)	ISCED 3C Short (1)	ISCED 3C Long/3B (2)	ISCE D 3A (3)	Type B (4)	Type A and advanced research (5)
ES	Men	–	6.3	5.7	5.1	5.6	–	6.5	6.0	4.9	5.3	c	4.8	5.4	4.7	5.4
	Women	–	17.1	12.5	13.0	9.2	–	16.4	12.0	12.3	8.8	c	12.1	8.8	9.2	6.9
FR	Men	a	5.8	7.2	4.3	6.7	a	5.5	7.2	5.1	6.6	a	5.6	7.7	5.3	6.3
	Women	a	10.2	7.7	5.0	7.5	a	10.2	8.8	5.2	7.0	a	9.3	8.0	5.4	6.6
IT	Men	4.3	3.4	4.7	x(5)	3.6	11.5	3.0	4.2	4.7	3.5	7.8	3.0	3.9	7.4	4.2
	Women	14.3	8.0	8.3	x(5)	7.2	14.5	7.9	6.1	7.5	6.0	15.9	7.0	6.6	9.5	7.0
LU	Men	–	–	–	–	–	3.8	2.3	2.2	2.8	2.0	c	c	3.1	c	2.4
	Women	–	5.0	–	6.4	–	7.5	4.3	5.6	3.2	4.9	c	7.7	3.1	c	5.0
HU	Men	a	6.0	3.0	–	1.3	a	5.6	3.2	1.6	1.5	a	6.5	3.8	c	2.0
	Women	a	6.5	3.6	–	1.5	a	7.3	4.3	1.6	2.4	a	9.1	5.4	c	2.6
NL	Men	x(2)	1.6	1.7	1.2	2.1	x(2)	5.2	3.8	2.6	2.5	x(2)	4.7	3.4	2.3	2.9
	Women	x(2)	2.7	2.8	2.1	2.4	x(2)	3.5	3.7	4.6	2.9	x(4)	4.5	4.3	c	2.8
AT	Men	a	3.5	3.7	2.3	1.9	a	3.6	4.5	2.7	2.4	a	3.6	c	c	3.1
	Women	a	3.4	4.4	–	2.2	a	4.2	5.9	2.0	4.8	a	4.4	c	c	c
PL	Men	19.0	a	12.3	x(5)	6.6	18.9	a	11.7	x(5)	5.9	17.1	a	11.1	x(5)	5.4
	Women	25.4	a	16.6	x(5)	6.7	24.1	a	16.6	x(5)	6.5	24.6	a	16.6	x(5)	6.8
PT	Men	a	a	4.2	–	–	x(3)	x(3)	4.5	x(5)	4.5	x(3)	x(3)	5.6	x(5)	5.2
	Women	a	a	6.0	–	5.5	x(3)	x(3)	7.0	x(5)	4.4	x(3)	x(3)	7.5	x(5)	5.5
SK	Men	x(2)	17.1	7.8	–	3.5	x(2)	17.4	8.0	3.0	5.0	x(2)	15.8	6.5	c	3.9
	Women	x(2)	17.9	11.3	–	3.7	x(2)	21.3	12.8	8.0	4.3	x(2)	19.6	10.8	c	4.5
FI	Men	a	a	9.6	5.4	3.3	a	a	8.2	5.4	3.3	a	a	6.9	4.4	3.7
	Women	a	a	8.8	4.8	3.8	a	a	8.3	5.4	5.1	a	a	8.0	5.1	4.4
SE	Men	a	a	5.5	5.2	4.7	a	x(3)	6.0	5.6	4.3	a	x(3)	6.0	5.8	4.6
	Women	a	a	4.8	3.3	2.6	a	x(3)	5.6	3.9	3.6	a	x(3)	5.5	3.7	4.5
UK	Men	5.2	4.4	3.0	2.7	2.7	4.2	3.6	2.8	2.9	2.5	4.0	3.5	2.0	1.5	2.2
	Women	4.0	3.5	2.7	1.7	2.0	3.9	3.4	3.0	1.7	2.0	3.4	2.5	1.6	1.5	1.8
EU-19 average	Men	8.8*	6.2*	5.4*	3.9*	3.6*	7.8*	6.2*	5.6	3.9	3.7		6.3	5.4	4.4	3.8
	Women	16.1*	9.4*	7.6*	5.2*	4.5*	12.5*	10.9*	7.8	5.2	4.7		10.0	7.3	6.0	4.7
OECD average	Men	7.1	5.3	5.3	3.8	3.5			5.7	3.7	3.5		5.5	5.2	4.1	3.6
	Women	12.7	8.2	6.9	4.4	4.1			7.2	4.5	4.3		8.8	6.9	4.8	4.3
AU	Men	a	2.5	4.7	3.9	2.9	a	2.5	4.3	3.3	2.7	a	a	2.7	2.9	2.4
	Women	a	7.7	5.2	3.9	2.2	a	5.6	4.9	2.7	2.9	a	a	4.6	2.9	2.3
CA	Men	a	x(3)	6.6	5.1	5.5	a	x(3)	6.3	4.6	4.6	a	x(3)	5.9	4.9	4.5
	Women	a	x(3)	6.5	5.1	5.2	a	x(3)	6.0	4.6	4.8	a	x(3)	6.0	4.7	4.4
JP	Men	a	x(3)	5.5	4.8	3.1	m	m	m	m	m	x(3)	x(3)	5.4	3.5	2.5
	Women	a	x(3)	5.3	4.5	3.3	m	m	m	m	m	x(3)	x(3)	4.3	3.9	3.0
CH	Men	3.8	2.8	5.3	1.5	3.7	–	3.3	7.1	1.8	1.9	c	3.2	c	c	2.5
	Women	4.3	2.9	4.7	2.2	3.4	–	3.9	4.8	–	3.0	c	3.7	5.3	c	4.4
KR	Men	a	x(3)	3.5	4.4	2.7	a	x(3)	3.9	3.8	2.7	a	x(3)	4.1	4.3	2.6
	Women	a	x(3)	2.6	3.2	2.6	a	x(3)	2.9	3.3	2.5	a	x(3)	3.3	3.7	2.3
US	Men	x(3)	x(3)	6.7	5.2	3.2	x(3)	x(3)	6.2	5.2	3.0	x(3)	x(3)	5.5	3.7	2.5
	Women	x(3)	x(3)	5.4	3.9	2.8	x(3)	x(3)	5.0	3.6	2.9	x(3)	x(3)	4.6	3.4	2.2

Notes: ISCED 3A: designed to provide direct access to theory and research oriented programmes in higher education.  
 ISCED 3B: designed to provide direct access to occupational and technical programmes in higher education.  
 ISCED 3C: designed to lead directly to labour market or to post-secondary non-tertiary education (ISCED 4) such as short vocational programmes or pre-degree foundation courses.

\* unweighted arithmetic mean computed by authors.  
 a category not applicable.  
 c too small sample to provide reliable estimates.  
 m data not available.  
 x(j) data included in category j of same year.

Source: OECD (2005c; 2006a; 2007b; chapters A). Unemployment rates are defined as follows: number of 25 to 64-year-olds in unemployment as a percentage of the labour force aged 25 to 64.

Table 6.4. **Index of earnings differentials for 25 to 64-year-olds with tertiary vocational and general qualifications in the EU and in some major competitor countries 2001-05**

	2001	2002	2003	2004	2005		2001	2002	2003	2004	2005
BE		0.75	0.77		0.74	FI	0.66	0.67	0.70		0.71
CZ				0.68	0.67	SE	0.74		0.76		0.76
DK	0.89	0.89	0.88		0.89	UK	0.73		0.71	0.71	0.72
DE		0.74	0.77	0.78	0.80	Other OECD					
IE		0.70			0.63	AU	0.77				0.79
ES	0.67			0.72	0.72	CA	0.64	0.70	0.66		0.65
FR		0.74		0.76	0.79	CH			0.83	0.80	0.84
LU		0.78			0.78	KR			0.71		0.77
HU	0.78		0.73	0.63	0.60	NO		1.14	1.12		1.14
AT					0.74	US		0.60	0.63	0.62	0.63
PL				0.92	0.92						

Source: Based on OECD (2004c; 2005c; 2006a; 2007b; chapters A). The index is calculated as follows: earnings of people from occupational and technical curricula (tertiary type B)/earnings of people from academically oriented education (tertiary type A).

#### 6.3.2.2. *Earnings for those with vocational or general education*

Data are available for tertiary level qualifications holders only. As can be seen from Table 6.4, people with a VET background at this level earn less than their counterparts from academic education in most EU and OECD countries. Here too, it is clear that employers are not particularly attracted by applicants from VET. Norway is the only case where the reverse could be observed.

#### 6.3.3. **Society's opinion of IVET**

The opinion of the European citizens (EU-25) on VET was investigated in the Eurobarometer survey conducted in 2004 (European Commission, 2005b). More respondents (39 %) aged 18-64 declared that they would recommend vocational training rather than academic education (32 %) if they had to give advice to young people at the end of compulsory school.

Concluding on the situation of IVET attractiveness in the EU, the general impression is negative. Students are not particularly attracted to VET at tertiary level and the general attractiveness of VET to employers seems to be limited. Yet, VET attractiveness is high among students at secondary level and good in European public opinion. However, there are also signs of decreasing interest and participation in secondary VET, especially in the 10 new Member States, who joined the EU in

2004, as observed by the European Commission (2006c, p. 129) and by Lasonen and Gordon (Cedefop, Lasonen and Gordon, forthcoming). The Eurobarometer survey also showed that seven of the new Member States were in the eight EU members whose citizens are least likely to recommend VET (European Commission, 2005b, p. 5).

## 6.4. Policies to increase IVET attractiveness in the EU

The Copenhagen process has forged a common EU vision of policies to improve the attractiveness of IVET. Most recent national policies can be described through the framework set.

### 6.4.1. **The EU model for improving the attractiveness of IVET**

It is worth noting that the EU policy to improve attractiveness clearly departs from some of the potential drivers explored in the research literature, especially those in terms of selectivity of studies, recreational options, social origin of students, institutional control and reputation, tuition fees or tax arrangements. The basics for the European IVET attractiveness policy were set in the Helsinki and Maastricht communiqués and can be summarised in four words: individualisation, opportunities, governance and image.

#### 6.4.1.1. *Individualisation of VET pathways and delivery*

As Descy and Tessaring explained, ‘individualisation is a response to the various capacities, inclinations and interests of individuals’ (Cedefop, Descy and Tessaring, 2001a, p. 130). Individualisation of VET requires training characterised by differentiation and flexibility. Descy and Tessaring distinguish between internal and external differentiation: internal differentiation relates to the teaching and learning process, whereas external differentiation refers to the creation of new programmes/settings to accommodate better the needs and preferences of students. Further, differentiation may involve one-to-one – or at least small group – guidance, support and supervision through the different stages of VET: studies and career choice, study and training periods, and transition to work. The importance of guidance in a lifelong perspective, supporting a European knowledge-based economy and society, was stressed by the 2004 Council resolution on guidance (Council of the EU, 2004). Descy and Tessaring also define flexibility as inducing possibilities for individuals and for the system itself to react rapidly in case of unforeseen developments/changes.

In the EU model of VET attractiveness, individualisation is supposed to improve the chances of success, during both studies and labour-market entry<sup>(60)</sup>. The underpinning hypothesis is that potential entrants will be more attracted if they feel that their preferences are taken into account and if they believe that their chances of success are, therefore, higher.

#### 6.4.1.2. *Widen the range of possibilities when exiting IVET pathways*

European and national IVET policy-makers assumed that attractiveness increases as IVET provides people with a growing range of opportunities at the end of its pathways. These opportunities can be educational (workplace learning, access to higher education, etc.), or related to employment (job opportunities, career development, opportunities resulting from policies of gender equality, etc.). Guidance is assigned an important role, to make people aware of the opportunities IVET can offer.

#### 6.4.1.3. *Governance*

The theme of VET governance was emphasised in the Helsinki communiqué. The approach adopted reflects the contemporary conception of governance, valuing local partnerships. Several dimensions of good governance have been considered: responsiveness to student and labour-market needs, quality assurance of training, system transparency, teachers’<sup>(61)</sup> professional development, multi-stakeholder partnerships, and anticipation of skills needs. The underlying logic is that modern governance applied to VET is supposed to be a source of attractiveness. Three arguments support this view.

First, governance entails rationalisation of the educational offer, for example offering the widest possible range of tracks with the fewest possible overlaps but including as many bridges as necessary. Coherent rationalisation of VET would bring transparency and clarity to users, which would help students in their choices, VET institutions in tailoring guidance and training provision, and employers when analysing applicant backgrounds for recruitment. This would encourage the use of VET, favour its cumulative nature and, therefore, enhance VET attractiveness.

Next, modern governance implies partnerships between VET institutions (including teacher and student representatives) and other VET stakeholders (companies, sectoral organisations and chambers of industry and commerce; government and local authorities; social partners; and social groups). Partnerships are expected to push VET providers and teachers to identify skills needs and to deliver VET quality and quantity in line with the expectations of both students and firms. Partnerships would thus boost student internship opportunities and labour market entry, and foster appropriate skilling of the workforce, hence anchoring the attractiveness of VET to both students and employers.

Finally, these partnerships are to be arranged locally. Embedded in the global framework set by national covenants between VET stakeholders, local partnerships should ensure VET provision best fit to local needs and, therefore, its efficiency

<sup>(60)</sup> The reverse side of the coin is that failures (unsuccessful transition, unemployment) will in this model be attributed to the individual, and not to the system or policies (labour-market policies).

<sup>(61)</sup> VET teachers and trainers which are usually not civil servants but professionals entrusted with part-time training tasks.

and attractiveness. The ability to focus on the relevance to local needs is a distinctive feature of VET, compared with general education most often nationally driven, and is therefore of particular importance in increasing VET's relative attractiveness.

#### 6.4.1.4. *Action on image and status*

The fourth priority for improving IVET attractiveness as requested in the Helsinki communiqué is action on image and status. Besides promoting parity of esteem with general education, and especially higher education, the communiqué suggested that IVET be associated with excellence and recommends that policies encourage excellence in skills, for example by applying world-class standards or through skills competitions. Dunkel et al. have studied the issue of bringing VET and higher education closer (Cedefop, Dunkel et al., 2009). They have emphasised the obstacles to convergence between both pathways. One hurdle is the gap between higher education and VET student backgrounds: higher education students are relatively close in terms of learning background and biographic data while heterogeneity prevails among VET students due to the diversity in their experiences (previous jobs), ages, status (students, trainees, apprentices, etc.), legal situations (migrants), motivations for returning to studies, etc. Another important difference between VET and higher education is the latter's selection function, traditionally well established in most countries. They have outlined that providing VET students with opportunities to access tertiary education is also a factor of parity of esteem between VET and higher education.

Recent Member State national policies partly reflect these priorities.

### 6.4.2. Individualisation of VET pathways and delivery

The aim of the individualisation policies is to gear contents and delivery to the individual needs of the learners and, through doing so, to increase chances of study success and labour-market entry. Three main approaches can be distinguished.

#### 6.4.2.1. *Diversifying the educational offer*

The rationale for diversifying the offer is that proposing more different courses makes more professions accessible and hence raises VET attractiveness. Several countries have thus increased the variety of their IVET supply, as in the introduction of the increased flexibility programme (IFP) in the UK in 2002. Based on partnerships between secondary schools, further education colleges and training providers, the programme has widened the supply of vocational courses targeted at the general certificate of secondary education, at national vocational qualifications, and at vocationally related qualifications. An evaluation report (Ofsted, 2005) states that the programme has proved 'so popular that the numbers of students taking IFPs have exceeded expectations, [and that] more students are staying on after 16' (Ofsted, 2005, p. 1). As a result of the programme, 'in many schools the curriculum now provides students with a richer experience, better matched to their interests and aptitudes' (Ofsted, 2005, p. 8). Lasonen and Gordon observed another example of diversification of offer in the German dual system where courses for 30 new occupations have been introduced since 2000 (Cedefop, Lasonen and Gordon, forthcoming). Similar processes were also reported in Belgium (Flanders), the Czech Republic and Poland.

#### 6.4.2.2. *Setting less demanding routes*

The objective is to propose programmes fitted to the needs of low ability students. For example, in Slovakia, basic practical training programmes were set in lower secondary vocational schools (ISCED 2). In these programmes, pupils with learning difficulties can acquire skills and certificates to perform simple tasks (Vantuch and Jelinkova, 2005, p. 31). Another example is the UK where the foundation modern apprenticeship was introduced in 2001 as a less demanding level than the former modern apprenticeship <sup>(62)</sup> (Fuller, 2004).

#### 6.4.2.3. *Modularisation*

Attractiveness has also been sought through flexibility of delivery, especially modularisation. Splitting programmes into distinct subparts allow

<sup>(62)</sup> Subsequently renamed advanced modern apprenticeship.

learners to concentrate on modules at their own pace and to complete the whole certificate progressively by acquiring the modules one by one. Also, the partial qualifications thus obtained can be immediately used in the labour market, so that the learner does not have to wait until completion of the whole qualification before accessing employment<sup>(63)</sup>. Descy and Tessaring have described experiences of modularisation in Denmark, Germany, France, the Netherlands and the UK (Cedefop, Descy and Tessaring, 2001a, p. 130-131). Lasonen and Gordon report more recent examples of modularisation of IVET provision in Hungary (since 2006) and Belgium (Flanders) (Cedefop, Lasonen and Gordon, forthcoming).

#### 6.4.3. Opening up opportunities

IVET has been criticised as sometimes leading to dead ends. The aim of the opportunities policies is to complement the offer of VET with additional educational and labour-market options open to VET students and graduates. These options are intended to allow VET students to value, market and convert the vocational qualifications acquired in a wider range of directions, towards either further education or working life. Such options are expected to increase the exchange value of VET qualifications and, as a consequence, to raise the attractiveness of the VET offer. In recent years, national policies in this area have mostly been targeted at opening up opportunities at secondary and tertiary education levels.

##### 6.4.3.1. Aiding return to secondary general education

Potential entrants can fear the irreversibility attached to choosing IVET. Giving them a return option is a way of reassuring them and making them more receptive to the attraction of VET. Observations from Lasonen and Gordon (in Cedefop, Lasonen and Gordon, forthcoming) and McCoshan et al. (2007) showed that national policies have used three main ways to recognise student rights to opt back into secondary general education.

##### *Experimental stage*

In Belgium, Greece, Italy and Hungary, the first years of some vocational curricula at secondary level have been designed as an experimental stage. Study contents at this stage are sufficiently general to allow new entrants to switch back to general education if they want. This experimental stage can last one or two years during which the students can take time to make a decision while improving their skills, which avoids delays in their progress.

##### *Double-qualifying pathways*

Offering both VET and general contents within the same programme allows students to keep their options open as to whether they will finally choose general education or VET at secondary level. Such settings have been reported in Bulgaria, the Czech Republic, Austria, Poland, Portugal and Finland.

##### *Bridging programmes*

An alternative has been observed by Lasonen and Gordon in Slovenia where, at the end of upper secondary education, one year bridging programmes make it possible for VET students to return to general secondary education and obtain the general diploma necessary to access tertiary education (Cedefop, Lasonen and Gordon, forthcoming).

##### 6.4.3.2. *Improving access from sub-tertiary levels to higher academic education*

Better access for VET awards holders from upper secondary or post-secondary non-tertiary education to higher academic education is also an option which may make VET more appealing. Two types of experiments are of particular interest.

##### *Open access policy*

In France, any upper secondary graduate (*bachelier*) has the right to enrol at the university, no matter whether his/her background is general, technical or vocational. However, this policy has long been criticised. A lot of students fail to achieve

<sup>(63)</sup> More generally, modularisation is a flexibility tool to gear to the needs of students. It can be used to achieve alternative objectives, for example to aid students at any level switching from VET to general education.

success during their first years at university, which has been largely attributed to the lack of student readiness for university subjects and working methods. As Lasonen and Gordon recall, students with vocational backgrounds have the highest rates of failure in academic education (Cedefop, Lasonen and Gordon, forthcoming). To cope with this problem, most universities have taken support actions in the form of working method courses and tutoring services. The method courses intend to introduce the students to the 'profession of student' (Coulon, 1997), i.e. to the specificity of studying at university level, especially the practice of self-apprenticeship, documentation techniques and study subject basics and methodologies. These courses are usually taught by experienced scholars. Tutors are graduate students whom the first and second year students can contact when they need advice on their study-specific issues or student life in general. Tutors receive an allowance from the university. However, no general systematic evaluation of these experiences has been conducted so far. A complementary approach often discussed (Hetzl, 2006) but still to be properly addressed is modernisation of information and guidance systems at upper secondary and university levels, to reduce the inflows of students into unsuitable tracks.

#### *Credit transfer arrangements*

Credit transfer arrangements can be set at bilateral level between two institutions, or at a larger scale between and/or within institution networks. The larger the validity area of the arrangement, the higher the value of the credits acquired. Membership of IVET institutions in credit transfer systems, in which academic institutions also participate is therefore a way of increasing the market value and attractiveness of vocational qualifications. McCoshan et al. (2007) and Dunkel et al. have reported that in Belgium, Ireland, Latvia and Slovenia, students from post-secondary non-tertiary institutes can benefit from such credit transfer procedures to enter directly in the second or third years of university programmes (Cedefop, Dunkel et al., 2009).

#### 6.4.3.3. *Tertiary level permeability between vocational and academic institutions*

The previous paragraph has dealt with transfers from sub-tertiary levels to tertiary education. The focus here is on transfers from one tertiary institution to another. As stressed by McCoshan et al. (2007), in most Member States, students from tertiary vocational education can enter tertiary academic institutions through credit transfer or exemption procedures. Dunkel et al. report such mobility schemes in Spain, Cyprus, Latvia, Hungary, Slovenia, Sweden and the UK (Cedefop, Dunkel et al., 2009).

#### 6.4.4. **Governance**

National policies to improve VET governance are multi-sided. First, countries have looked at increasing responsiveness to student needs not only through such measures as new courses, less demanding ways or modularisation but also sometimes by providing the students with financial aid. Such was the case in the Irish youthreach programme, which provides students with childcare allowances. More generally, countries have also engaged in tackling global responsiveness through partnerships. Leney et al. (2004, p. 78) and Lasonen and Gordon (in Cedefop, Lasonen and Gordon, forthcoming) have reported long lasting (e.g. Czech Republic, France, Lithuania) or more recent efforts to develop partnerships between VET stakeholders (VET institutions, companies, chambers and sectoral bodies, social partners, and government) in Belgium (Flanders), Germany, Estonia, Ireland, Italy, Latvia, Lithuania, Hungary, Malta, the Netherlands, Romania and Sweden. In Germany, Italy, Hungary and the Netherlands, these partnerships were arranged at the regional level.

Another aspect of governance is quality assurance. Lasonen and Gordon report that quality assurance procedures are being introduced to most national IVET systems throughout the EU, especially in Belgium (Flanders), Bulgaria, the Czech Republic, Ireland, Spain, Lithuania, the Netherlands, Austria, Romania and Finland (Cedefop, Lasonen and Gordon, forthcoming).

Also, several Member States are involved in implementation or preparation of vocational qualification frameworks or catalogues (Cedefop, Boudier et al., forthcoming; Coles, 2006; Cedefop, Lasonen and Gordon, forthcoming) to increase the transparency of VET systems and make them more useful and finally attractive to students and employers. Such instruments can be found in the Czech Republic, Estonia, Spain, France, Portugal and the UK.

#### 6.4.5. Action on status

The aim of action on VET status is to bridge the gap in esteem between general/academic and vocational education, especially at tertiary level, where the relative popularity of VET is the lowest.

Dunkel et al. have noted two different experiences (Cedefop, Dunkel et al., 2009). In Belgium, academisation of VET led to increasing the academic contents of the programmes of vocational institutions. In contrast, vocationalism in several Member States has given more space to vocational contents in the programmes of tertiary academic institutions. Leney et al. (2004) had already observed the creation of vocational programmes at tertiary level in Bulgaria, Germany, France and Latvia. Dunkel et al. note this as recent a trend in many Member States, especially the Czech Republic, Spain, Cyprus, Lithuania, Luxembourg, the Netherlands and the UK (Cedefop, Dunkel et al., 2009).

This vocational extension is multifaceted:

- (a) inclusion of vocational complementary contents in existing academic programmes;
- (b) creation of tertiary vocational programmes (usually not linked to previous studies and of shorter duration than the academic ones) and degrees, such as the UK foundation degrees (Zamorski, 2006) and the French vocational bachelor (licence professionnelle);
- (c) setting of apprenticeship routes towards traditional academic degrees (for example 'alternance' pathways in the French Grandes écoles, i.e. polytechnics and business schools);
- (d) involvement of practitioners in teaching;
- (e) pedagogical shift to competence-based learning (such as in Austria and Finland as reported by Leney et al. 2004, p. 73);
- (f) introduction of practice-oriented methods, for example problem-based learning, case-based

learning, project-based learning and work-based learning (Markowitsch and Messerer, 2006);

- (g) closer relationships and cooperation with industry in designing programme contents and developing traineeships.

However, in the perspective of increasing the attractiveness of VET, the tendency to vocationalism is to be questioned. Increasing the place of VET within tertiary academic institutions may contribute to VET legitimacy and to parity of esteem with academic education. However, the aim of academic institutions when introducing VET elements in their programmes is not to promote VET in itself but rather to develop the employability of their own students and increase their own attractiveness compared to VET institutions. It is not clear whether this strategy is really of advantage to the (relative) attractiveness of VET. Carefully measuring the real effects of this 'vocational drift' (as Dunkel et al. called it in Cedefop, Dunkel et al., 2009) would be a priority task for future research in the field of VET attractiveness.

## 6.5. Suggestions for future research and policy

Examining these national policies against the Helsinki recommendations raises some questionable features for Helsinki agenda implementation: partial fulfilment, method uncertainty and lack of evaluation. These suggest recommendations for research and policy in the perspective of Lisbon plus, beyond 2010.

### 6.5.1. Partial implementation of the Helsinki roadmap

National policies do not exploit the full range of possibilities suggested by the Helsinki agenda.

For individualisation and opportunities, while efforts were made to diversify the educational offer, make its delivery more flexible and open new educational opportunities, similar efforts regarding individual guidance and support are lacking. In general, countries have not taken substantial measures to reinforce the provision of close guidance, support and supervision to IVET students to help them choose study and

career, train and move towards working life. Neither have major efforts been observed in better informing students on the widest possible range of opportunities VET can lead to, and especially on the institutional procedures to access them. Leney et al. (2004, p. 73) report information campaigns in Belgium and Finland, but examples are rare, and significant actions are still overdue.

Another limit in the reforms conducted is that the opportunities opened have been restricted to education. Countries do not seem to have paid much attention to exploring the possibility of increasing labour-market opportunities available to IVET students, particularly in access to traineeships, internships, employment, better wages and work conditions, responsibilities and further career advancement. Griffiths and Guile had described work experience policies in Europe at the beginning of the 2000s, outlining their limited scope, the lack of reforms and the shortage of apprenticeship places (Cedefop, Griffiths and Guile, 2004). No major progress has been reported since then.

In governance, the major absence is that of social groups (e.g., as suggested by McCoshan et al. 2007, p. 154-156, representatives of migrant populations or of people with disabilities)<sup>(64)</sup>, and of student and teacher representatives. Lasonen and Gordon (in Cedefop, Lasonen and Gordon, forthcoming) remarked that students especially tend to be absent from the partnerships observed. Yet, it is clear that the participation of teachers and students in VET governance is critical. Student expectations contribute to designing how VET attractiveness should be enhanced. However, teacher willingness to identify skills needs, to upgrade their skills and to deliver quality training is essential to attractiveness. In the policies observed, it does not seem that teachers have been involved in the governance of the VET systems, and neither are there signs that systematic and large-scale up-skilling of VET

teachers has been undertaken throughout the EU. Parsons et al. have emphasised the urgency of professionalisation of company-based VET trainers (Cedefop, Parsons et al., 2009).

Various attempts to increase the status of IVET compared with that of academic/general education are observed but significant actions to improve the image of VET are still awaited. To date 18 Member States have taken part in the Worldskills competitions or participated in the first Euroskills held in 2008, and national skills competitions are organised in several Member States every year (Box 6:1) but these actions

#### Box 6:1. Skills competitions

A skills competition is a meeting in which vocational students, graduates and young workers compare their mastery of their craft. Competitions are organised by trades. Any craftsmanship can be represented in a skills competition: florist, barber, cuisine, web design, plumbing and so on. Competitors take part individually or by teams. Juries are composed of professionals and trainers from the trade. Winners are awarded medals/titles (champion) and/or prizes.

There is a long-lasting tradition of skills competitions worldwide. Since the first national competition held in Spain 1947, regional and national competitions have been organised in several countries. Skills competitions are also organised at international level. Since 1950, 39 international vocational training competitions have been organised (see the history of WorldSkills at: <http://www.worldskills.org/site/public/?pageid=147>).

The objectives of these events are to increase the visibility of vocations, modernise their image through linking it to the ideas of dynamism, competing spirit and high quality, and to raise the profile and attractiveness of VET-related activities. Some 800 competitors from 47 countries participated in the November 2007 Worldskills competition in Shizuoka (Japan). In 2005, 120 000 people visited the Helsinki competition (WorldSkills, 2005).

European countries have recently decided to launch their own international skills competitions, with the support of the European Commission. The first edition took place in September 2008 in Rotterdam, Netherlands (<http://www.euroskills.info/wm.cgi?ws=5>).

<sup>(64)</sup> From another point of view, Preston and Green have also advocated the participation of groups at risk of social exclusion in VET and its governance as a factor of social cohesion (Cedefop, Preston and Green, 2008)

<sup>(65)</sup> VET-LSA is a project of international comparative large scale assessment of the competences acquired by VET students. The project aims to be the counterpart of the OECD PISA (programme for an international student assessment) for VET. It is expected to enhance knowledge on- and visibility of VET. The initiative was launched in 2007 by the German Federal Ministry of Education. The project continues and eight countries currently participate in the policy steering of the project (Austria, Denmark, Finland, Germany, Norway, Slovenia, Sweden and Switzerland).



have not yet gained sufficient recognition from the public. More visibility and many more actions to promote excellence and world-class performance in VET content, delivery or outcomes are needed. The VET-LSA initiative <sup>(65)</sup> might be an example of such actions.

These gaps are, first, an issue for research. It should be investigated why most countries have not taken significant measures to provide IVET students with more individual guidance and support and more labour-market opportunities, why social groups, students and teachers do not play a stronger role in the governance of VET systems, and why actions on VET image have not been more emphasised. Research should then focus on analysing which arrangements, settings and actions could be proposed to policy-makers to improve guidance, opportunities, partnership and image.

#### 6.5.2. **Academisation, vocationalism, differentiation and bridges**

Three main models can be used to organise the links between VET and academic institutions. The first is differentiation, where each type of institution keeps its distinctive features while bridges are arranged to allow student mobility between institutions. The two other models are vocationalism (all educational institutions whether academic or vocational deliver a variable core part of vocational training) and academisation (all institutions have a variable core academic content). While the Copenhagen-Maastricht-Helsinki process urged parity of esteem between general education and VET, no particular method to reach this goal has been prescribed.

As a consequence, countries and educational institutions have tried out a diversity of ways, sometimes contradictorily. Across the EU, many academic institutions tended towards vocationalism, while at the same time some VET institutions increased their academic offer. As shown by Dunkel et al., this proliferation of strategies was favoured by the tradition of institutional autonomy in tertiary education as well as by such institutional and practice changes as the rise of credit systems, the push for recognition of prior learning, the development of qualifications frameworks, the creation of networks of institutions, and the emergence of post-secondary non-tertiary insti-

tutions and of managerial universities (Cedefop, Dunkel et al., 2009).

As a consequence, the logic and coherence of the educational offer is being blurred, which may hinder its attractiveness (McCoshan et al., 2007). For instance, expanding the academic content of vocational programmes might make VET institutions less attractive to those students who consider general contents boring and whose attention and interest need a clear link between study contents and their concrete/field/working applications. But, above all, it is not clear whether the strategies adopted by the educational institutions contribute to parity of esteem and increase the status of VET, and if they do, whether they are equally effective and their effects are synergistic or antagonistic. For example, McCoshan et al. (2007), show that university autonomy leads to institution-specific rules and procedures which can serve to protect own positions and prevent status equalisation.

It is clear that research is needed to map the possible models for parity of status, clarify the rationale and measure the effects of each model, and recommend appropriate policies.

#### 6.5.3. **Policy evaluation**

The most frequent remark which researchers have made on VET attractiveness policies is the lack of evaluation. For instance although the principle of partnership-based governance has been adopted in most EU VET systems, considerable differences may exist between systems as regards the types of stakeholders involved, the types of relationships and activities between them, and the degree of their involvement. But these models of partnerships, the problems encountered, the effectiveness and results of models are still awaiting mapping, analysis and assessment. Another example is the lack of research and evaluation of national and international level skills competitions. More generally, there is no case of systematic European and national assessment of national attractiveness policies.

This lack of policy evaluation is most often attributed to the fact that the Copenhagen-Maastricht-Helsinki process was only recently launched. However, evaluations are also lacking in such countries as France where VET attractiveness policies (such as open access to higher education

Maastricht-Helsinki process was only recently launched. However, evaluations are also lacking in such countries as France where VET attractiveness policies (such as open access to higher education for secondary VET credentials holders, and partnership-based governance) were experienced before the European strategy was launched. In this area too, research would be welcome.

First, it is necessary to check the assumptions of the EU model for VET attractiveness policies. For example, does individualisation of VET provision improve the chances of achieving training and labour-market entry? To what extent are – if they are – potential learners sensitive to individualisation and to offers of future educational and labour-market opportunities? And how does the style of governance influence attractiveness? Next, there is also a need to analyse and assess the implementation, results and effectiveness of the national policies experienced. Both strands of research would provide useful inputs to sustain and refine the policy-making process.

## 6.6. Conclusions

The objective of this chapter was to get an overall picture of the attractiveness of IVET in the Member States; to survey the research literature on the progress in this strand of the Copenhagen process; and to point out, from this review, suggestions for research and policy in the perspective of Lisbon plus.

The attractiveness of IVET in the Member States appears limited. Though public opinion among general and secondary students in particular seem to appreciate VET, general education seems to be much more preferred over VET among tertiary education entrants and among employers, at least as regards recruitment and wages.

Much progress to improve IVET attractiveness has been made within the Copenhagen process along the lines of the Helsinki and Maastricht communiqués. In several Member States, the VET offer has been diversified, educational routes more suited to lower-ability students have been opened, and modularised settings created. IVET students have also been offered more options to return to general education, either at secondary and tertiary level, to make the choice for VET reversible and thus increase VET attractiveness. The governance of VET systems has also been modernised through the introduction of quality assurance procedures, qualification frameworks for more transparency, and partnerships for more responsiveness, so as to raise the usefulness and attractiveness of VET to more stakeholders. Finally, attempts were also made to bring academic education and VET closer, to equalise esteem of both educational pathways.

Problems remain, however. First, not all the recommendations contained in the Copenhagen process have led to concrete measures. Such a lack of achievement is patent in providing IVET students with individual guidance and support, increasing their labour-market opportunities, involving social groups, teachers and students in VET governance, and taking actions to improve the image of VET. Next, a methodology to approach consistently the issue of parity of esteem is needed since the simultaneity of the initiatives taken at national or institutions levels in terms of vocationalism, academisation or differentiation might be counterproductive. Finally, systematic evaluation of the attractiveness policies implemented is lacking. On all these aspects, research is called for to provide policy-makers with sound recommendations for effective action.

## 7. Qualifications systems, frameworks and learning outcomes

### 7.1. Introduction

Comparing and transferring qualifications across Member States has been one of the key concerns of European education policy since the Treaty of Rome was signed. Transparent qualifications enable a better match between skills supply and demand, foster labour- market mobility and strengthen the competitiveness of the Member States. Several policy instruments and mechanisms have been developed and introduced over recent decades, all aimed at governing and modernising qualifications systems better and more effectively and supporting the overarching goal to promote European integration. Within this process (the Lisbon agenda) the Copenhagen process for VET and the Bologna process for higher education are two of the most important milestones. Although it was by no means the beginning of the idea of realising the transparency of qualifications, the agenda has initiated the idea of a pan-European qualifications framework (EQF) based on learning outcomes.

This chapter attempts to identify the relationships between qualifications systems, qualifications frameworks and learning outcomes in terms of knowledge, skills and competences. Section 7.2 addresses the governance qualifications systems and the link with qualifications frameworks by describing their characteristics and key ideas; it positions political instruments within the area of European education policy and its governance. Section 7.3 elaborates the use of qualifications frameworks as political instruments and focuses on their objectives, their development and their anticipated benefits. Conclusions drawn from other countries' experience are summarised at the end of this section and provide the background to EQF development which is addressed in Section 7.4. This section also deals with the 'core' of the EQF, the concept of competence and learning outcomes. Section 7.5 summarises the main findings and Section 7.6 indicates implications for policy and future research.

### 7.2. Governance of qualifications systems

Qualifications frameworks are political instruments that help modernise national qualifications systems, in turn promoting VET system modernisation and competitiveness. To understand the interrelationship between qualifications frameworks and qualifications systems, it is useful to start with a definition. The concept of qualifications systems is very broad, including '[...] all aspects of a country's activities that result in the recognition of learning. These systems include the means of developing and implementing national or regional policies on qualifications, institutional arrangements, quality assurance processes, assessment and awarding processes, skills recognition and other mechanisms that link education and training to the labour market and civil society [...]' (OECD, 2007c, p. 22).

According to Coles and Werquin (in Cedefop, Coles and Werquin, forthcoming), qualifications systems include dimensions such as:

- (a) providing credit transfer;
- (b) optimising stakeholder involvement;
- (c) recognising non-formal and informal learning;
- (d) establishing qualifications frameworks;
- (e) creating new routes to qualifications;
- (f) optimising quality assurance.

Qualifications systems vary from country to country as they are embedded in national histories, values and policies. Their structure can relate to sectors, national qualifications registers or to education and training systems and there is no standardised model of 'qualifications system'. As qualifications frameworks are only one dimension within qualifications systems, there is also no standardised model of a qualifications framework. Similar to qualifications systems, frameworks depend on the country's political, social and economic environment. The current OECD definition attempts to describe qualifications frameworks independently of national context (Box 7.1).

## Box 7:1. Definitions of ‘qualifications frameworks’

According to the OECD, a qualifications framework is to be understood as ‘an instrument for the development and classification of qualifications according to a set of criteria for levels of learning achieved. This set of criteria may be implicit in the qualifications descriptors themselves or made explicit in the form of a set of level descriptors. The scope of frameworks may be comprehensive of all learning achievement and pathways or may be confined to a particular sector, for example initial education, adult education and training or an occupational area. Some frameworks may have more design elements and a tighter structure than others; some may have a legal basis whereas others represent a consensus of views of social partners. All qualifications frameworks, however, establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a

country and internationally’ (OECD, 2005d, p. 6).

However, this definition does not suffice to cover the creation of a metaframework such as the EQF. Therefore, the European Commission suggests the following definition: ‘a metaframework can be understood as a means of enabling one framework of qualifications to relate to others and subsequently for one qualification to relate to others that are normally located in another framework. The metaframework aims to create confidence and trust in relating qualifications across countries and sectors by defining principles for the ways quality assurance processes, guidance and information and mechanisms for credit transfer and accumulation can operate so that the transparency necessary at national and sectoral levels can also be available internationally’ (European Commission, 2005a: p. 13).

Table 7:1. Descriptors defining levels in the European qualifications framework (EQF)

	Knowledge	Skills	Competence
	In the context of EQF, knowledge is described as theoretical and/or factual.	In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	In the context of EQF, competence is described in terms of responsibility and autonomy.
<b>Level 1</b> The learning outcomes relevant to Level 1 are	basic general knowledge	basic skills required to carry out simple tasks	work or study under direct supervision in a structured context
<b>Level 2</b> The learning outcomes relevant to Level 2 are	basic factual knowledge of a field of work or study	basic cognitive and practical skills required to use relevant information to carry out tasks and to solve routine problems using simple rules and tools	work or study under supervision with some autonomy
<b>Level 3</b> The learning outcomes relevant to Level 3 are	knowledge of facts, principles, processes and general concepts, in a field of work or study	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems
<b>Level 4</b> The learning outcomes relevant to Level 4 are	factual and theoretical knowledge in broad contexts within a field of work or study	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change;  supervise the routine work of others, taking some responsibility for evaluating and improving work or study activities

	Knowledge	Skills	Competence
<b>Level 5*</b> The learning outcomes relevant to Level 5 are	comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	exercise management and supervision in contexts of work or study activities where there is unpredictable change  review and develop performance of self and others
<b>Level 6**</b> The learning outcomes relevant to Level 6 are	advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts;  take responsibility for managing professional development of individuals and groups
<b>Level 7***</b> The learning outcomes relevant to Level 7 are	highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research  critical awareness of knowledge issues in a field and at the interface between different fields	specialised problem-solving skills required in research and/or innovation to develop new knowledge and procedures and to integrate knowledge from different fields	manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches ;  take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
<b>Level 8****</b> The learning outcomes relevant to Level 8 are	knowledge at the most advanced frontier of a field of work or study and at the interface between fields	the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

Each of the eight levels is defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any system of qualifications.

Compatibility with the framework for qualifications of the European higher education area

The framework for qualifications of the European higher education area provides descriptors for cycles. Each cycle descriptor offers a generic statement of typical expectations of achievements and abilities associated with qualifications that represent the end of that cycle.

- \* The descriptor for the higher education short cycle (within or linked to the first cycle), developed by the joint quality initiative as part of the Bologna process, corresponds to the learning outcomes for EQF Level 5.
- \*\* The descriptor for the first cycle in the framework for qualifications of the European higher education area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF Level 6.
- \*\*\* The descriptor for the second cycle in the framework for qualifications of the European higher education area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF Level 7.
- \*\*\*\* The descriptor for the third cycle in the framework for qualifications of the European higher education area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF Level 8.

The European qualifications frameworks link national qualifications systems together, acting as a translation device to make qualifications more readable and understandable across different countries and systems. They mainly consist of reference levels (which are learning levels) and 'descriptors' which describe a level's learning

outcomes in terms of knowledge, skills and competences. For example, in the EQF, the learning outcomes relevant to Level 8 are described as 'knowledge at the most advanced frontier of a field of work or study and at the interface between fields' (European Commission, 2005a, p. 20) (Table 7:1)

Qualifications frameworks also assist in recognising learning outcomes as they provide structures to develop and describe the relationship between different types of qualifications; they promote the accessibility of vocational qualifications and learning pathways and contribute to a lifelong learning area. They can be seen as drivers of change, since they are expected to provide the impetus for fundamentally required reforms and modernisation initiatives in VET systems, such as competence and outcome orientation, promoting mobility of individual learners, fostering a better link between learning pathways and ensuring modularisation of learning programmes.

Qualifications frameworks should, therefore, be seen as a part of a qualifications system. While the latter is an umbrella-term for all structures and processes that lead to the award of a qualification, the first refers to a political instrument implemented to govern VET systems better. Moreover, there is a difference between national qualifications frameworks (NQFs) and metaframeworks such as the EQF. Whereas the implementation of metaframeworks is carried out voluntarily, this is not the case with NQFs. For instance, the EQF mainly addresses priorities of the EU, not so much those of individual Member States, hence it does not include binding regulations for competence validation and accreditation. Its development is primarily based on mutual trust between the relevant actors and on their willingness to cooperate, and is much more complex than the development of a NQF (Section 7.4).

The idea of a qualifications framework is not new. For centuries, trade guilds and organisations have exercised control and protection over the right to practice crafts and trades and to educate apprentices. Bjørnåvold and Coles (2008) have pointed out that these structures were the forerunners of sectoral and NQFs. Nowadays, qualifications frameworks are mainly based on governments' interest in developing overarching structures that represent the skills and competences from different learning settings such as IVET, higher education or CVET. Modern qualifications frameworks are often linked to lifelong learning strategies and are also intended to provide a basis for validation of non-formal and informal learning. The main objective of qualifications frameworks is to promote permeability, transparency and mobility between

several educational subsystems, between and within the Member States, between sectors and between the educational system and the labour market.

Some qualifications frameworks are even deeply embedded in social hierarchies: they go far beyond a simple classification of diplomas and training programmes as they show the relationships between qualifications and, therefore, provide transparency and information about the possibilities for progression. Moreover, a qualifications framework may impact on governance because it is often seen as a tool to organise funding. In the UK, for instance, there seems to be a trend only to finance training programmes leading to a qualification that belongs to the qualifications framework. Eligibility, mobility and transparency will be also fostered because a qualifications framework is 'a device that opens things for review' (Cedefop, Coles and Werquin, forthcoming, p. 155). It engages stakeholders in new ways of recognising the (social) value and the creation of new and of existing qualifications. It also creates a single device for linking up innovations that are the basis for reforms and lead to better governance.

It is foreseen that the EQF will be linked with a credit system for VET, the so called ECVET, which will be linked to the European credit transfer system for higher education (ECTS). The ECVET is currently being developed in collaboration with the Member States. Both, the EQF and the credit systems are expected to support quality assurance and the equity of VET and higher education. Coles and Werquin (in Cedefop, Coles and Werquin, forthcoming) point out that qualifications frameworks (and particularly the EQF) are quality assurance devices because all qualifications within are checked thoroughly and quality assured. Although it is unclear if quality assurance measures are part of all NQFs, it is definitely the case for the EQF as its promoters and the national authorities cannot afford to accept qualifications that would not meet the required standards. Beyond that basic fact, employers would not trust and, therefore, would not use the EQF if it contained qualifications that are not thoroughly checked and quality assured.

Establishing a qualifications framework is also a way to improve information and guidance because linking qualifications to one another helps users to see clearly the opportunities provided in terms

of validating and certifying training and learning processes and opportunities for advancement. Providing smoother transitions between learning pathways may also foster individual engagement in learning activities and remove dead ends within VET systems.

Apart from this, establishing qualifications frameworks impacts on the delivery of VET because qualifications frameworks help in spotting gaps that may exist in the delivery of learning and training programmes. They might also help employers to identify better missing elements in their workforce qualifications if they use qualifications frameworks as part of their recruitment and human resource development policies.

### 7.3. Qualifications frameworks in European lifelong learning

According to Bohlinger and Münk (in Cedefop, Bohlinger and Münk, forthcoming), research on qualifications frameworks can be summarised in two categories. The first category involves national studies – usually in the context of developing and implementing a NQF. Studies have been conducted that analyse the political background and the stages of development of frameworks, particularly in English-speaking countries such as Australia (Keating, 2003b), Ireland (NQAI, 2003), New Zealand (Mikuta, 2002; Philips, 2003), South Africa (Allais, 2003; Cosser, 2001) and the UK (Croxford et al., 2001; Raffe et al., 2005; Raggatt and Williams, 1999).

The second category involves studies from international organisations (OECD, European Commission, ETF, ILO, Cedefop), which provide overviews and summaries of national experiences (Deane and Watters, 2004; Young, 2002; 2003; 2005). Here, the search for classification criteria for frameworks is to the fore. Such criteria may include the purpose of a framework, its basic principles, guidelines, range, characteristics and benchmarks, the use of learning outcomes to describe qualifications, learning units, the volume of learning hours and the definition of qualifications.

However, no NQF exists that actually embraces the complete range of options, tasks, learning forms and qualifications. Further, all frameworks

face several obstacles to their development and implementation and share organisational, content-related and political problems. In New Zealand and South Africa qualifications frameworks aim to bridge and unify education subsystems (e.g. higher education, IVET) in a single overarching framework and system (Ensor, 2003; Mikuta, 2002). In integrative frameworks, problems may arise if insufficient account is taken of different forms of learning. It is apparent that these content-related barriers are actually also political and institutional ones. They constitute a power struggle between work and education taking place at political level, and a dispute arising from various opinions on what a qualifications framework should ultimately achieve (Heyns and Needham, 2004).

#### 7.3.1. Objectives of qualifications frameworks

Development of qualifications frameworks has been under way since the mid 1980s; large parts of this development stem from the 16+ action plan in Scotland and the NVQ-system (national vocational qualifications) introduced in the UK in 1986. This initiative was based on a fundamental reform need which has become apparent in most of the countries that introduce or revise qualifications frameworks:

- (a) strict selection for participation in education and training (Young, 2003: p. 230). This is based on the value and status of vocational qualifications as traditionally established by shared practices (such as in commerce and crafts) and, in the case of general education, by subject and discipline. However, these professional and scientific communities excluded certain groups of people from qualification structures, or offer-ed them only limited access. With qualifications frameworks countries expect a shift from shared practices (on which the qualifications systems are based) toward explicit criteria. The aim is also to release qualifications from their traditional links with formal and institutionalised learning, and broaden access to learning particularly for the disadvantaged (Cedefop, Lasonen and Gordon, forthcoming; Young, 2003, p. 229);
- (b) VET institutions are often independent of one another and organised on a sector-specific basis. As a consequence, there is limited permeability and few options for transferring learning outcomes;

- (c) qualifications are traditionally acquired by attending formal educational programmes. This structure may presuppose barriers for those who acquire knowledge, skills and competences informally or non-formally and who do not participate in formal learning programmes due to organisational, content-related or financial limitations. Qualifications frameworks can better validate and certify individual learning outcomes and make them available on the labour market.

The large number of European and non-European countries reorganising existing or developing new qualifications frameworks shows that they are not a fashionable or European phenomenon, but a global one. Developing qualifications frameworks resembles the introduction of a new currency, which everybody wants, but whose meaningfulness is unclear (Young, 2003: p. 223). This can be attributed to several factors:

- (a) the scarcity of research-driven investigations of the topic. Existing research is mainly based on commenting on European Commission documentation or on outlining future scenarios;
- (b) the development of NQFs as 'second-chance devices' for low-qualified individuals, to give them an opportunity to ensure the formal recognition of competences acquired in non-formal and informal learning processes (Young, 2003: p. 223);
- (c) an insufficient link between existing qualifications systems and new qualifications frameworks. In some countries frameworks have been introduced for qualifications that did not exist at the time when the NQF was implemented, as was the case in South Africa. In this case, the frameworks encompassed newly created qualifications and a completely new terminology, which the potential NQF users did not understand since it was not associated with any existing programmes (Allais, 2003; Ensor, 2003).

However, it is supposed that such problems will be resolved in the course of time and that the development of qualifications frameworks will promote lifelong learning, the transformation of education systems, and open access to learning pathways (Raffe, 1994; Young, 2003, p. 224). Moreover, qualifications frameworks are also expected to ensure a more rational

qualifications structure and improved governance of competence development, leading to improved international marketing of education and training programmes.

### 7.3.2. Conditions for a qualifications framework

Similar overall societal conditions and reform needs can be found in all countries that intend to introduce or to revise qualifications frameworks. For instance, a general trend towards standardisation and convergence of educational subsystems, which may take different shape depending on the national context, can be observed in all countries. Raffe et al. (2005) identify three types of reforms related to standardisation: curricular, organisational and structural reforms.

Developing a qualifications framework requires several preconditions (Cedefop, Bohlinger and Münk, forthcoming; Raffe et al., 2005; Young, 2003: p. 225):

- (a) it must be possible to describe all qualifications in terms of learning outcomes, so that all qualifications and all other forms of learning can be standardised and suited to accreditation;
- (b) it must be possible to depict all qualifications in a hierarchy or continuum to describe learning levels. The latter must, in turn, be matched to all types of accredited learning and all qualifications;
- (c) assessment must be possible for all qualifications, which have to be independent of the form of provision, curriculum, methods and didactics via which they were acquired;
- (d) it must be possible to divide all qualifications into units, which can be assigned to different levels with the same descriptors.
- (e) benchmarks must be employed so that all types of learning can be accredited and assessed.

Issues related to these preconditions wherever qualifications frameworks are introduced, referring to the intrinsic or institutional logic of the framework. The intrinsic logic deals with the content-related aims, such as to promote lifelong learning or to modernise education systems; the institutional logic refers to ways in which educational institutions and the labour market are involved and to regulatory and financing mechanisms. Table 7:2 illustrates the national efforts to provide a basis for developing frameworks and satisfying these preconditions.



Table 7:2. **National efforts to develop a structural basis for qualifications frameworks**

Develop legal basis	Austria, Croatia
Provide sufficient information to all partners and users	Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Hungary, Lithuania, Malta, Norway, Portugal, UK
Reach consensus between all relevant parties	Estonia, Iceland, Finland, Liechtenstein, Sweden
Promote mutual trust without binding control mechanisms	Belgium, Cyprus, Romania, Slovenia
Develop common principles and mechanisms for validation of non-formal and informal learning	Austria, Cyprus, Greece, Iceland, Malta, Netherlands, Romania

Source: Cedefop (2009e).

Depending on the extent to which the preconditions are met, the structure of a qualifications framework may be either ‘strong and comprehensive’ or ‘weak and loose’. Strong and comprehensive frameworks can be found in New Zealand and South Africa, where they encompass all kinds of qualifications. Frameworks of this type are often introduced on an ad hoc basis and new qualifications are created to suit them. In contrast, ‘weak and loose’ qualifications frameworks are to be found in Australia, Ireland and Scotland. These frameworks are adapted to the existing qualifications and arise from attempts to reform a long established qualifications system. These frameworks represent an alternative model to the strong and comprehensive frameworks (Young, 2003, p. 226). In both cases, the goal is the same, to create a qualifications framework that provides corresponding ideas, structures and a legal basis for involvement of stakeholders (OECD, 2005d, p. 9).

### 7.3.3. Modelling national qualifications frameworks

Some Member States (Ireland, France, Malta, the UK, etc.) have a lengthy tradition of developing qualifications frameworks and/or credit systems, while others have developed them only recently. These older frameworks were developed prior to the launching of the EQF and are often regarded as best practice examples. For example, France introduced its framework during the 1970s as part of the annually updated educational planning (planification) which served to create transparency and comparability of qualifications awarded by the ministries (*homologation* <sup>(66)</sup>).

The UK also has a lengthy tradition in developing qualifications frameworks, dating from the mid-1980s when Scotland introduced the 16+ action plan. Nowadays, the Scottish credits qualifications framework (SCQF) involves 12 reference levels and has a close connection to the national credit point system. The credit and qualifications framework for Wales (CQFW) is closest to the Scottish one as both are comprehensive frameworks with similar objectives, although the CQFW has only nine levels compared with the SCQF (Raffe et al., 2008, p. 63). The Irish NQF has 10 levels after completion of secondary education.

The SCQF and its connected frameworks illustrate a pragmatic, incremental approach to developing an outcome-based qualifications system. The framework has been developed progressively instead of only removing the input-based system in one move. This was done by modifying the levels and volumes of learning in terms of an outcome-based philosophy. In contrast, the Irish NQF, set up in 2003, captures all learning, from the initial stages to the most advanced. Each level of this framework is based on nationally agreed standards of knowledge, skills and competence expressed as learning outcomes. In addition, each qualification included in the framework is quality assured, as is every provider delivering programmes leading to qualifications.

Those countries that do not yet have a qualifications framework or a similar instrument are

<sup>(66)</sup> Creation of equivalence of qualifications under the aegis of the Ministry of Education with those under the aegis of the Ministry of Employment.

currently developing structures and conditions for one. A pan-European survey carried out by Cedefop (Cedefop, 2009e), shows the attitude towards NQFs in the remaining European countries as follows:

- (a) most countries (Belgium, Bulgaria, Croatia, Czech Republic, Germany, Italy, Hungary, Latvia, Austria Portugal, Slovenia, Slovakia, Sweden) have committed themselves, politically and/or legally, to developing an overarching NQF explicitly linking into the EQF. They have launched working groups to define, categorise and draft learning outcomes in terms of knowledge, skills and competences;
- (b) the Scandinavian countries, Cyprus, Lithuania, Luxembourg, the Netherlands, Poland and Romania have started preparations for a NQF but have not committed themselves to an overarching framework. This second group covers countries at very different stages of development, from those still at an early reflection stage to those close to a final commitment and implementation;
- (c) the remaining two countries, Greece and Iceland, have not started preparations or have stated that an overarching NQF is not a priority.

The different stages of national developments indicate that education and training systems are not all at the same level. Bouder et al. (in Cedefop, Bouder et al., forthcoming) point out that the different national stages refer to a type of chronological model including several principal stages which the authors consider as an obligatory pathway followed by all national qualifications systems and which they describe as follows:

- (a) the setting up of a national system of exams providing a guarantee of the quality and cohesion and the regularity of the assessment process;
- (b) the building of standards (frames of reference) that define both the objectives of training in terms of what the individual should know and the assessment criteria and situations;
- (c) a 'permeability' phase that seeks to create pathways, diversify routes, establish gateways. Worthy of note at this stage are the debates on the degree of generalisation and specialisation of vocational training and their modularisation;
- (d) the most specific debates on certification

appear with the drawing up of national lists and considerations on validation of prior learning and experience.

Moreover, all countries place special emphasis on one dimension or another of these phases. Table 7:3 illustrates these national progressions to develop a structural and/or legal basis for a qualifications framework and to modernise their qualifications systems.

Table 7:3. **Stages of national development related to qualifications frameworks and qualifications systems**

Systems stages	Country examples
National examinations	Bulgaria, Poland
Setting up of standards (reference frameworks)	Bulgaria, Estonia, Hungary
Link upper secondary, initial training-vocational training	Austria, Finland, Iceland, Italy, Liechtenstein, Luxembourg, Norway, Portugal, Slovenia
Register of qualifications	Spain ( <i>Catálogo nacional de cualificaciones profesionales</i> ), France ( <i>Répertoire national des certifications</i> ), Hungary (national register of qualifications), Austria, the UK (NQFs)
Accreditation of prior and experiential learning	Finland, France, Slovenia

Source: Cedefop, Bouder et al. (forthcoming).

All national qualifications systems involve a hierarchy of training pathways, accompanied by a hierarchy of qualifications. Vocational qualifications are placed higher or lower according to the history of education systems, employment and professional relations (Cedefop, Bouder et al., forthcoming; Dauty, 2006). Nevertheless, the formalisation of a nomenclature of qualification levels has not always been felt to be either useful or necessary. Moreover, it is only recently that most countries have accepted the use of qualification levels and an almost systematic use of benchmarking between countries. This decision is driven by the aim to promote European integration and includes the

setting up of non-obligatory policy tools such as the open method of coordination.

The rapid development of NQFs cannot be understood without considering national and European policy objectives, plus national VET structures and traditions. Despite considerable differences between the countries in terms of approach, some important commonalities can be observed. For example, a significant number of countries intend to develop their NQFs on an eight-level structure (Belgium, Estonia, Spain and Lithuania) which can be interpreted as an effort to link NQFs as closely as possible with the EQF structure. However, the Irish and Scottish NQFs (respectively 10 and 12 levels) illustrate that an eight-level national structure is not a panacea<sup>(67)</sup>. Several countries giving low priority to the development of a NQF may thus be well prepared to relate their qualifications to the EQF: Finland is a good example of this.

All countries have accepted the learning outcomes approach which is the core of the EQF. This focus on learning outcomes, sometimes expressed as a competence-based approach, is closely linked to the need to increase transparency and accountability of qualifications (see Section 7.4.1). These are conditions for transferring and combining learning outcomes from different settings and may be seen as necessary for achieving more, better and more equitably distributed lifelong learning.

#### 7.3.4. Anticipating qualifications frameworks benefits

According to the OECD (2007c), there are many anticipated benefits for governments and societies in composing national qualifications inventories and linking them in a qualifications framework. These advantages include increased transparency and flexibility, higher participation rates and increased mobility for learners. Young (2003) identifies qualifications frameworks as instruments of accountability for educational institutions and as a basis for international comparisons of national qualifications systems. In some countries the NQF is a tool for regulation and quality assurance; admission to the framework

is a prize for qualification providers. This use of the frameworks may reinforce central control over provision and restrict individualisation and regionalisation. The OECD (2007c) also identifies the tendency for governments to retain tight control over qualifications frameworks development while acknowledging the gains to be made by involving a wide range of stakeholders.

A qualifications framework is largely linked to what the OECD (2007c) identifies as a 'separate mechanism', namely clarifying pathways. To some extent, the mechanism expressing qualifications as learning outcomes can be seen as relative since the concept of learning outcomes is crucial to that of establishing a qualifications framework. For the anticipated benefits of qualifications frameworks a distinction is made between benefit in general and benefit in respect of promoting lifelong learning (OECD, 2005d, p. 10 et seq.; Cedefop, Coles and Werquin, forthcoming), although these levels partly overlap. However, they are mentioned by almost all studies focusing on the potential benefits of frameworks (Bjørnåvold and Coles, 2008; Bohlinger, 2008a; 2008b; Young, 2005). Box 7:2 summarises such expected benefits.

Several studies have focused on the impact of qualifications systems on lifelong learning. According to the OECD (2005d; 2007c), this interrelationship is usually measured using data on education and training systems (access, efficiency, flexibility of learning pathways, responsibilities, transparency), on learning processes (quantity, distribution, quality, efficiency) and data on trends, the value of which seems, however, questionable as these indicators reflect only parts of what constitutes and impacts on a qualifications system. In addition, there are also conceptual difficulties in terms of comparing qualifications systems and education and training structures. Another difficulty is the lack, or incomparability, of data, particularly since in most countries the NQFs are too new for the relevant and reliable data to be available.

While the impact of qualifications systems on promoting lifelong learning has been under investigation for several years, mainly led by international organisations and institutions, this is not the case for qualifications frameworks. Evidence-based

<sup>(67)</sup> Early Irish experiments in linking their qualifications levels to the EQF indicate no major problems as long as learning outcomes underpin both national and European qualifications frameworks.

**Box 7:2. Anticipated benefits of qualifications frameworks****Development of the education and training system and of the general range of education and training options on offer**

This includes reducing the complexity of qualifications systems, aiding coherence, increasing transparency despite growing regionalisation, decentralisation and individualisation of provision as well as broadening access to all forms of education and training. It is also expected that learners and teachers/trainers should be enabled to identify and create their own learning pathways autonomously. In the context of society as a whole, the formulation of aims should consider individual, company, societal and labour-market attitudes and needs, thus ensuring quality within education and training systems by, among other things, transferring and taking account of credits.

**Career development, support, advice and guidance, including promotion of mobility in employment**

Qualifications frameworks are intended to support learners, providers and entrepreneurs in mastering technological and demand-based labour-market changes and to aid a match between supply and qualifications, skills and competences and labour-market needs. They thus support individual career development and vertical, horizontal, social and geographical mobility.

**International and transnational dimension**

Qualifications frameworks are intended to increase mobility, cooperation and exchange, to promote intercultural understanding and reciprocal recognition between providers, teachers/trainers and trainees from different countries. They are also intended to assist development of a common language on qualifications.

**Functions of regulation, legislation and institutional framework conditions**

The development of qualifications frameworks assumes that they improve and regulate both the promotion of mutual trust and the reliability and sustainability of the quality of provision more efficiently (via sector-specific standards, quality assurance systems or increased autonomy of education/training providers).

**Promoting lifelong learning**

Qualifications frameworks are expected to promote a learning culture by considering demographic trends and by broadening access to learning and training, to ensure that competences and skills can be transferred between different settings (OECD, 2005d; Cedefop, Coles and Oates, 2005). They can stimulate improvement of basic skills for disadvantaged learners by validating non-formal and informal learning. Learning times can be reduced for those who want to brush up and supplement knowledge acquired earlier. Overall, qualifications frameworks allow for more clarity and support a better steering and marketing of qualifications. Planning of education-policy reforms and programmes has hitherto been based on the assumption that promoting lifelong learning via qualifications frameworks constitutes a controllable policy mechanism, which promotes structural change in the education and training system (such as via the creation of new qualifications) while setting out to change the surrounding systems in terms of quality, access, distribution or provision.

*Source:* OECD (2005d; 2007c); Cedefop, Coles and Oates (2005).

analysis of their impact on actually improving participation in lifelong learning and qualifications systems has emerged only recently. This might be due to the topic's complexity and to the fact that the final draft of the EQF was adopted by the Parliament and the Council as recently as in April 2008 (European Council, 2008).

Measuring the impact of qualifications frameworks calls first for understanding of the policy mechanisms in responding to social and economic pressures and, second, for specific indicators that can be used to measure the actual impact and 'success' of these instruments. The OECD (2005d; 2007c) and Cedefop, Coles and Oates

(2005) provide a distinction between two types of policy mechanisms: structural changes within a qualifications system (by introducing new qualifications into the existing qualifications system); and modification of conditions in the system's environment, such as changes related to quality, access, distribution and/or provision. It is noteworthy that qualifications systems cover aspects of both types. They include structural changes and initiate modifications of conditions in the qualifications system environment. The latter might occur if, for example, the value of a qualification is allocated to a certain level in the EQF and thus, this qualification might become

more or less attractive. The first occurs anyway, as introducing a qualifications framework is a structural change *per se*.

### 7.3.5. Lessons to be learned

While current proposals for developing NQFs in the EU are closely related in terms of design, they draw little from experience of frameworks in other countries. Young (2004) distinguished three types of problems in introducing qualifications frameworks: problems relating to policy, technical management and content. Policy problems are primarily based on unclear responsibilities for developing a framework, particularly since these instruments should ideally cover an entire education and training system. Problems of technical management arise from unclear responsibilities related to institutional structures, while curricular and content-related problems arise from a conflict between education principles and assessment claims, mainly based on the fact that learning outcomes are primarily assessed by holding examinations.

Several conclusions can be drawn from the experience of countries that have already introduced qualifications frameworks. The first is that gradual introduction of a qualifications framework appears to be more successful than an ad hoc approach, as was the case in South Africa where a unified qualifications framework and qualifications system was developed without considering the existing qualifications structure (Allais; 2003; Cosser, 2001).

The second conclusion is that willingness to compromise and seek consensus is a fundamental requirement for working on qualifications frameworks.

The third lesson is that the elements of a qualifications framework need to fit together precisely. Only if individual elements or separate 'sub-frameworks' are themselves logical (such as for higher education or for VET) can the overall framework also be logical and consistent.

The fourth key lesson is that support from policy-makers is an essential building block. The development of qualifications frameworks is often based on the hope that they might resolve fundamental problems of transparency, regulation and quality. However, the examples of Ireland, New Zealand and Scotland show that this is asking

too much, and that a qualifications framework 'is only one element in what must be a much broader strategy that includes staff and curriculum development, a review of funding, institutional improvement and developing a new assessment infrastructure' (Young, 2004, p. 5).

Bearing these lessons in mind, the next section explains and analyses the development of the EQF, which is a metaframework established voluntarily and providing a translation instrument for qualifications all over Europe.

## 7.4. Developing a European qualifications framework

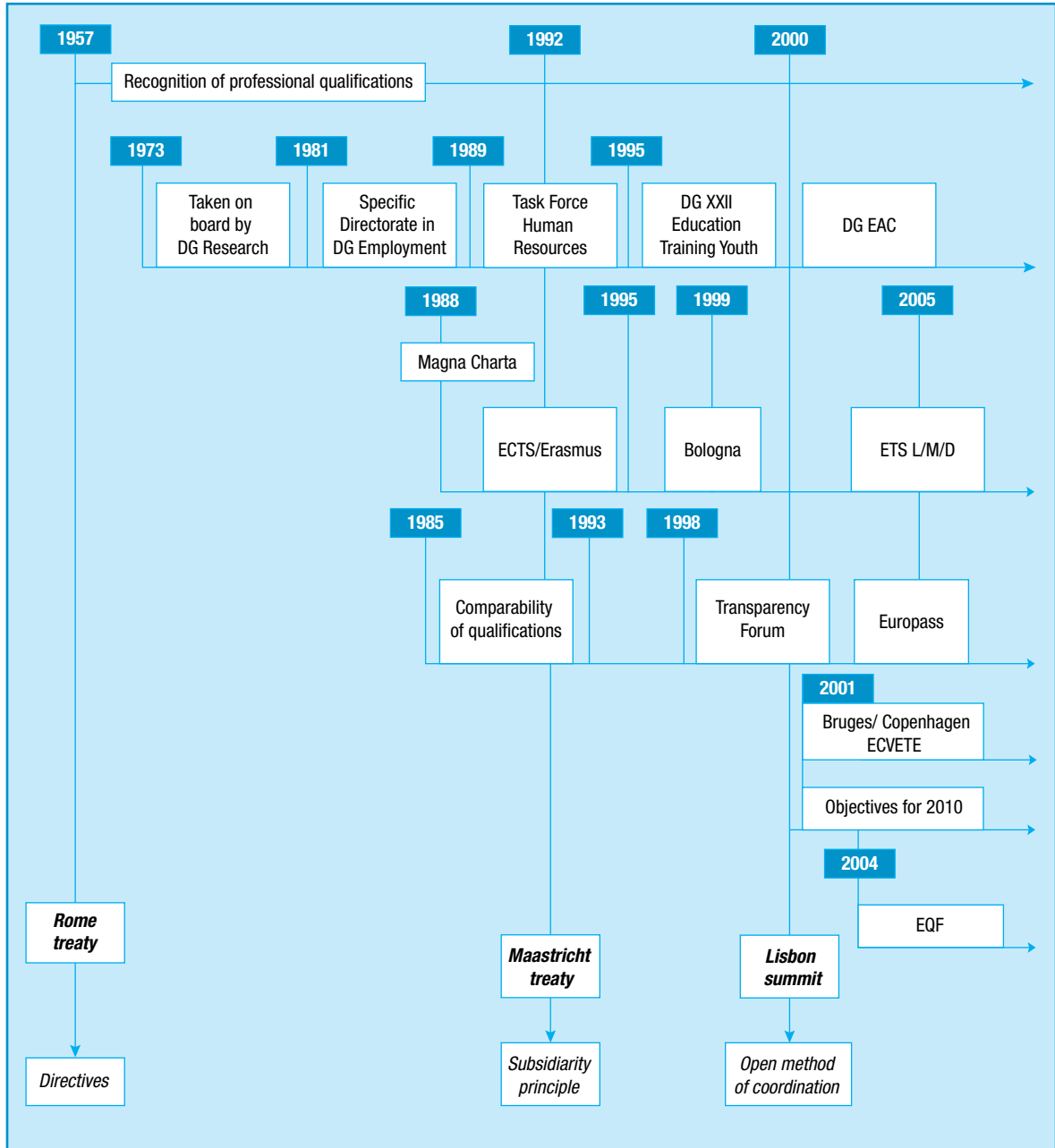
At the end of 2002 a technical working group, under the Commission's leadership, began specifying plans for ECVET and, in particular, for the EQF. The final draft recommendation on establishing the EQF for lifelong learning was adopted by the Parliament and the Council in April 2008 (European Council, 2008).

The EQF is an attempt to promote transparency, quality and mobility in European qualifications systems, although it is by no means the first approach to establishing a European lifelong learning area or at fostering the competitiveness of European education. Figure 7:1 illustrates the different EU initiatives and developments still active in training, qualification and certification.

As the EQF is based on the principle of subsidiarity, and voluntary, the Member States will be responsible for aligning existing qualifications to its levels. This may necessitate creating a relationship between input- and output-based systems. Further, the EQF is intended as a metaframework for all areas of education and training (European Commission, 2005a, p. 4; see also Box 7:1), but it is not designed to compete with national or sectoral qualifications frameworks either already in existence or yet to be established, and it will neither synthesise these nor take their place.

The EQF consists of reference levels relating to learning outcomes, based on knowledge, skills and competences, classified into eight hierarchically structured stages and extending from simple basic qualifications to highly specialised knowledge (Table 7:1). The reference levels relate to various

Figure 7:1. Community level initiatives on training qualifications and certifications



Source: Cedefop, Boudier et al. (forthcoming).

qualifications linked via the qualifications frameworks used in Europe and can thus make it easier to ‘translate’ them. Unlike the existing NQFs, which are usually too rigidly based on formal learning and qualifications, the common reference levels are intended to include all types of learning and learning outcomes, irrespective of where, when and how these have been acquired. The qualifications required for each level are given descriptors relating exclusively to learning outcomes: there is no input

description in terms of organisation (of learning institution), training duration, curricula, methods and didactics. The categorisation of the learning outcomes and their allocation to the reference levels is left to the competent national authorities. This approach allows for different national and sectoral understandings of ‘competence’ and the various national learning and qualification pathways. It also allows for a matching of NQF and EQF levels.

Compared to NQFs, the functions and charac-

teristics of the EQF differ in several dimensions of scope and legally binding nature. Table 7:4 compares the dimensions of the levels in both framework types.

To support the comparability of qualifications and the use of the different frameworks, the EQF will be linked with two credit transfer systems: the

ECTS and ECVET, both aimed at certifying learning outcomes. Table 7:5 presents a comparison of the three instruments and illustrates that the connection between the EQF, the ECVET and the ECTS is realised through correspondence between reference levels in the two systems. Within the eight EQF reference levels, three are set in accordance

Table 7:4. Comparing levels in NQFs and in the EQF

Dimensions	NQFs levels	EQF levels
Main function	benchmark for the level, volume and type of learning	benchmark for the level of any learning recognised in a qualification or defined in an NQF
Developed by	regional bodies, national agencies and sectoral bodies	Member States acting in a concerted manner
Sensitive to	local, regional and national priorities	collective priorities across countries
Recognises learning of individuals by	assessment, evaluation, validation and certification	does not directly recognise learning of individuals
Currency depends on	factors within national context	levels of trust between international users
Quality is guaranteed by	the practices of national bodies and learning institutions	national practices and the robustness of the process linking NQF and EQF levels
Levels are defined by reference to	national benchmarks embedded in specific learning contexts, e.g. school education, work or higher education	general progression in learning across all contexts across all countries

Source: Adapted from Bjørnåvold and Coles (2008).

Table 7:5. Objectives of EQF, ECVET and ECTS

Goals	Instruments	EQF	ECVET	ECTS
Transparency		Improving the transparency of qualifications and lifelong learning (Lisbon goals)		Improving the transparency of higher education degrees and diplomas
Promotion of Europe		Making Europe the most competitive and dynamic knowledge-based economic area by the year 2010 (Lisbon goals)		International attractiveness of European higher education area <sup>(b)</sup>
Mobility		No direct explicit link in the documents analysed	Promoting the international mobility of learners <sup>(d)</sup>	Promoting student mobility; developing international curricula <sup>(e)</sup>
Comparability		Comparability of qualifications	Comparability of qualifications	Comparability of study programmes
Transferability (transfer, accumulation)		Transferability of qualifications	Transferability of qualifications or partial qualifications	Transferability of credit points
Recognition, validation		Recognition and validation of non-formal and informal learning	Improving the quality of VET recognition and validation procedures <sup>(d)</sup>	Assists academic recognition <sup>(e)</sup>
Cooperation		Promoting cooperation and strengthening trust among all concerned <sup>(e)</sup>	Promoting cooperation and trust among all concerned	Promoting cooperation and trust among universities

Source: Dunkel and Le Mouillour (2008: p. 187), based on official European Commission documents describing and explaining EQF, ECVET and ECTS:

<sup>(a)</sup> Berlin communiqué (2005); <sup>(b)</sup> European Commission (2004a, p. 1); <sup>(c)</sup> European Commission (2006a, p. 2 et seq.); <sup>(d)</sup> European Commission (2006b).

with the reference levels for higher education. As ECVET follows up on the earlier development of the ECTS, the remaining five levels are for higher education and cover vocational qualifications.

Establishing the numerical values of ECTS and ECVET credits falls to the national authorities. The ECTS is based on the principle that 60 credits measure the workload of a full-time student during one academic year. The student workload of a full-time study programme in Europe is between 1 500 and 1 800 hours per year, one credit standing for 25 to 30 working hours (European Commission, 2004a). Unlike the ECTS, the numerical value and the calculation of credits relating to ECVET are not yet finally defined. As the credits will be allocated according to units, all qualifications must be modularised which will also fall to national authorities in charge of VET systems.

**7.4.1. Towards a competence-based approach**  
Knowledge, skills and competences are the core concepts of EQF reference levels. In the

Commission Proposal for a recommendation of the European Parliament and the Council, competence is defined as ‘the proven ability to use knowledge [and] skills’ that encompass responsibility and autonomy while skills are defined as ‘the ability to apply knowledge and use know-how to complete tasks and solve problems’ (European Commission, 2006b, p. 16). Here a distinction is made between abilities according to the level of autonomy and the associated responsibility.

In contrast, knowledge means ‘the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of study or work’ (European Commission, 2006b, p. 16). Accordingly, in the EQF knowledge is described as theoretical and/or factual.

The focus on a competence-based approach to developing the EQF arises from increased awareness of concepts of adaptive and job-based learning processes, as well as increased acceptance of informally and non-formally acquired

Table 7:6. **Comparison of qualifications and competences**

Qualifications	Competences
Acquired skills, knowledge and capacities, validated by educational institutions	Knowledge, skills and capacities acquired and validated experience in social, everyday and professional life
Certified by exams	Certified by validation and evaluation
Exams offer access to formal learning pathways and formal certification	Validation of prior learning results
Certifications define the education systems structure	Validation indicates individual’s actual level of competences and completes formal qualifications
Homogeneity of acquired knowledge	Heterogeneity of acquired competences
Collective: same processes for all individuals	Individual
Focus on knowledge of subjects and disciplines	Focus on learning results in accordance with personal or professional contexts
Formalised and institutionalised learning locations	Independent of learning locations
Duration of learning process determined a priori	Independent of duration of learning
Recognition and validation of knowledge and skills restricted to those relevant to exams	Every learning experience can be certified
Transfer problem relating to professional contexts	Transfer problem relating to other contexts
Collective dimension stated by vocational /job classification	Individual dimension

Source: Adapted from Bohlinger (2008a, p. 70) and Colardyn (1996, p. 54).



learning outcomes. Research on the acquisition of professional expertise as described by Livingstone (2000), Jaques (1996) and Dreyfus and Dreyfus (1986) have pointed out the need to broaden access to learning and to use outcome orientation in the EQF. Central to the wish to make all kinds of learning results visible is the validation and accreditation of informally and non-formally acquired learning outcomes, including implicit knowledge. As shown in Table 7:6, a comparison between the concepts of 'qualifications' and of 'competences' illustrates that competence encompasses a broader variety of options to recognise an individual's cognitive and mental capacities, dispositions and abilities. These are far beyond the reach of the concept of qualifications.

On behalf of Cedefop, Winterton and Delamare-Le Deist and Winterton et al. (Cedefop, Winterton et al., 2006), elaborated a starting point for defining the terminology of vocational competences with the aim 'to establish a typology of qualitative outcomes of VET in terms of knowledge, skills and competences (KSC) that will serve as conceptual underpinning for the horizontal dimension in developing a European credit system for VET' (Cedefop, Winterton and Delamare-Le Deist, 2004, p. 1). Their proposal is based on several national development strands (mainly Germany, France, the UK and the US) and from different areas of practice and academic disciplines. The study indicates the difficulty of systematically structuring common competence approaches and the attempts to unify them in a common understanding of the term. According to the authors, the US debate on competences is mainly based on studies in management training and to the development of general abilities, attitudes and job-related skills. In contrast, the Anglo-Saxon competence discussion relates primarily to the debate on national vocational qualifications and the associated knowledge and behavioural components. The French debate on competences is characterised by a holistic approach: with simultaneous emphasis on *savoir*, *savoir-faire* and *savoir-être*, a comprehensive view of competence is discussed. Thus, the development of the typology of knowledge, skills and competences mainly takes account of approaches emphasising job-related skill components.

Another study underpinning the core ideas of the EQF and the ECVET which was also conducted on behalf of Cedefop (Cedefop, Coles and Oates, 2005) takes a different approach. The authors largely abstain from academic discourse on competences, instead establishing, precisely on the grounds of the lack of clarity and agreement on assigning terminology to these concepts, a new 'concept' which they call the 'zones of mutual trust (ZMT)'. Its idea is that the EQF and each of its levels are an agreement between individuals, enterprises and other organisations about the delivery, recognition and evaluation of vocational learning outcomes (knowledge, skills and competences) (Bohlinger, 2008b; Cedefop, Coles and Oates, 2005). In this approach, there is essentially no analysis or detailed definition of the core concept of knowledge, skills and competences. Thus, the 'concept' of mutual trust leaves defining and interpreting these terms to the Member States, which harbours the risk that the specific gradings and distinctions between the individual learning levels and learning outcomes remain unclear, particularly since the 'stages' are rather 'levels' if they are seen from a learning psychology perspective. Learning processes do not develop stable and steadily, but tend to criss-cross, undulate, stagnate or even reverse. Moreover, they are not cascaded but rather interwoven (Anderson, 1995; Edelman, 2000; Lefrançois, 1972).

#### 7.4.2. The 'fuzziness' of the competence concept

Although the EQF is based on knowledge, skills and competences, a commonly agreed understanding of these terms is still a challenge. Beyond the semantic problems they may generate in languages other than English, a deeper analysis of these terms would be necessary not only to provide a justifiable basis for implementing the EQF, but also to provide guidance and orientation for developing and revising NQFs.

Knowledge, skills and competences are the results and outcomes of any learning process and include an individual's ability and willingness to perform them. Nowadays, the concept of competence has a lengthy tradition, with roots going back to several psychological, cybernetic, philosophical and linguistic

### Box 7:3. The roots of the competence concept

The use of the term 'competence' goes back to Noam Chomsky and was related to his creation of the theory of generative grammar as well as being part of his contributions to linguistics and cognitive psychology (Chomsky, 1964; 1965). Chomsky distinguishes between linguistic competence as the speaker/hearer's knowledge of his language on the one hand and linguistic performance as 'the actual use of language in concrete situations' on the other hand (Chomsky, 1965, p. 14). The distinction between competence and performance lies in the fact that performance, the language transaction, is the result of competence. According to this interpretation, a competent speaker has the ability to generate an expression of language and has the creativity not only to apply the rules of language (structure, grammar, vocabulary, etc.), but also to use them to express his thoughts. This ability also includes the meaningful combination of content with language rules and the understanding of other speakers. Linguistic competence also encompasses an interactive and social element, since its development acquires meaning only in the context of the need to communicate with others.

White (1959) developed a similar concept according to which competence development is based on the capacity to construe knowledge. This presupposes the integration of new stimuli into an individual's cognitive system and the capacity to construe abilities as a routine of establishing order (knowing how). In both cases, a distinction must be made between ability/knowledge itself on the one hand and observing ability/knowledge on the other. This difference is better known as the distinction between competence and performance and illustrates one of the fundamental problems in developing, assessing and measuring competence. In this context, Polanyi (1967) introduced the concept of tacit knowledge, which covers a differentiation between the process of knowledge acquisition and knowledge per se. The concept of tacit knowledge was later taken up and further developed by McCarthy and Hayes

(1969), Tulving (1972) and Spender (1998). Apart from that, competence development also presupposes the acquisition of human experience and social culture and leads to the (further) development of mental functions and functional organs, which ensues via the attribution of meaning (Leontjew, 1979; Millikan, 1984). If this meaning is to be achieved, then learning as an element of competence development cannot take place in isolated contexts, but always needs to be integrated into (social) contexts, into communication and a specific purpose in the sense that, for example, knowledge is acquired via particular actions (Dawydow et al., 1982; Luhmann, 1987; Mead, 1962).

An educational approach to competence was provided by Weinert (2001, p. 27 et seq.) who defines competences as cognitive and learnable abilities and skills for problem-solving. According to him, competence includes aspects of motivation, volition, social dispositions and abilities to apply and use problem-solving successfully and responsibly in variable situations<sup>(a)</sup>. Nowadays, this definition has been adapted and adopted by many studies and is used by the OECD within the DeSeCo project<sup>(b)</sup>, by Oates (2003) and by Keating (2003a).

<sup>(a)</sup> Original: *Competences are 'bei Individuen verfügbare oder durch sie erlernbare, kognitive Fähigkeiten und Fertigkeiten, um bestimmte Probleme zu lösen, sowie die damit verbundenen motivationalen, volitionalen und sozialen Bereitschaften und Fähigkeiten, um die Problemlösungen in variablen Situationen erfolgreich und verantwortungsvoll nutzen zu können'* (Weinert, 2001, p. 27).

<sup>(b)</sup> DeSeCo: Developing and selecting competences (Rychen et al., 2003).

Source: Chomsky (1964; 1965); Dawydow et al. (1982); Leontjew (1979); Luhmann (1987); McCarthy and Hayes (1969); Mead (1962); Millikan (1984); Polanyi (1967); Spender (1998); Tulving (1972); White (1959).

debates summarised in Box 7:3.

Basic competence models, which are referred to in the EQF, were developed by Jaques (1996) and Dreyfus and Dreyfus (1986). They define competences as abilities, skills and a mental disposition. They are characteristics of individuals but equally of teams, work units or organisations. It is generally agreed that the term competence is designed to lead to the ability to act and describes a disposition, while the term qualification describes a (social and/or professional) position. The main criterion for distinguishing between qualification and competence lies in the fact that qualifications are knowledge and skills that can be objectively

described, taught and learned and are functional. In contrast, the concept of competence also includes aspects of individual personality and is not necessarily oriented towards occupational benefits.

For qualifications frameworks, problems with the concept of competence and competence development may arise from different understanding of competence, its characteristics, validation and certification. However, a common understanding is a fundamental requirement for designing competence-based curricula, learning outcomes and assessment procedures. One of the current topics related to developing qualifications frameworks

minimum flexibility to devote attention to specific national competence concepts, including the perspective of different disciplines (Bohlinger, 2008a; Keating, 2003a; Cedefop, Rychen, 2004; van Loo and Semeijn, 2004). It will be a challenge to develop qualifications frameworks and systems in a way that takes into account all the different perspectives and expectations.

## 7.5. Conclusions

The number of NQFs is growing. They are increasingly seen as an instrument for reform and change as well as for steering VET systems. It is expected that translation of implicit qualifications levels into formal and explicit classifications, based on learning outcomes, will allow VET policy-makers to offer a coordinating and planning instrument across education and training pathways, but also across sectors and labour markets. The EQF has become a catalyst offering national stakeholders a starting point and a benchmark for codifying qualification levels. Its particular strength is to unite the hybrid forms of knowledge, skills and competences by which the acquisition of learning contents can be paused and resumed at any point. Focusing on learning outcomes and less on learning input also allows flexible structuring of vocational education and training paths (Muller, 2000).

However, it is a challenging task to support the development of the EQF and to analyse its acceptance by research and policy-makers as well as by companies, education and training institutions, individuals and social partners. While labour markets and qualifications systems are based mainly on competition and can be characterised by the search for best performance, qualifications frameworks are fundamentally based on trust, and hence on cooperation between those involved. The EQF has to be closely linked to national developments and experiences, particularly for the debate on input-versus outcome-orientation of learning processes which has led some countries to proceed fairly hesitantly in introducing the EQF and the credit transfer systems. These countries fear the decline of their national VET systems and prefer to rely on their

experience of institution- and input-based approaches to reform qualifications systems instead of adopting a competence-based approach.

The current state of the debate on implementing the EQF leads to the belief that the transparency and comparability of qualifications will be guaranteed by creating a 'neutral' policy instrument that needs to fulfil several preconditions to its aims.

First it must be designed as an interface between all fields of education, training and the labour market. Second, this interface must take into account the multiplicity of approaches to validating and certifying competences and the variety of approaches to recognising national qualifications. Finally, it has to consider the weight and value of local and sectoral specificities and of VET in general (Cedefop, Lasonen and Gordon, forthcoming).

Above and beyond these environmental constraints, the creation of such an instrument is part of a history that cannot be ignored and is expressed in the ideals that have been embedded frequently in the notions of transparency and readability of qualifications, individual mobility and the single labour market. Boudier et al. (in Cedefop, Boudier et al., forthcoming) suggest several possible ways forward in developing qualifications systems, qualifications frameworks and the validation and certification of learning outcomes:

- (a) to recognise, accept and value the diversity of the national qualifications systems and labour markets, the reality of which is clearly shown by the different modes of recognition of qualifications. It would thus be possible to bring together labour markets, political instruments and the desire to match the supply and demand for skills. As the notions of readability and mobility correspond to very different realities, this seems to be the most challenging way forward;
- (b) to maintain the momentum and to return to the debate on the relationship between training and employment, where a sort of reversal of the paradigm can be observed. While vocational training was considered as a response to the needs of the labour market, nowadays it plays an increasing role as a structuring element for this market. Supply has gained increasing influence over demand <sup>(68)</sup>, and it is unclear

<sup>(68)</sup> As demonstrated in the study *Educational expansion and the labour market* (Cedefop, Bédouvé and Planas, 2003).

- whether this separation will still remain valid, as the distinction between education and training systems and production systems will diminish;
- (c) it is also possible that there will be some form of what Boudier et al. (in Cedefop, Boudier et al., forthcoming) and Young (2005) have called a 'genetic development' of qualifications systems and frameworks, which implies that the Member States will either tend towards simultaneously adopting the common EQF and similar European instruments or if they will prefer following national traditions and pathways.

## 7.6. Implications for policy and future research

The objective of this chapter is to illustrate and analyse the interconnections between national and European qualifications systems, qualifications frameworks and learning outcomes; to review the research literature on the impact of qualifications frameworks and its related policy instruments and to point out suggestions for research and policy.

Much progress has been made in developing qualifications systems and frameworks to guarantee the four rights of the Treaty of Rome. Focusing on learning outcomes and developing political instruments to promote the transparency and comparability of qualifications has gained attractiveness over decades. Though policy-makers and researchers seem to appreciate the shift towards voluntary competence-based cooperation, validating and evaluating the impact and added value of this shift remains a challenge.

In all EU countries, efforts have begun to provide or revise the legal and structural basis for modernising qualifications systems and implementing qualifications frameworks and credit transfer systems. By launching the EQF, countries and sectors have been offered a valuable instrument to realise the aims of the Bruges-Copenhagen process. Attempts were also made to support mutual trust between stakeholders and to promote acceptance of political instruments by companies, education and training institutions, learners and the social partners.

Problems remain, however. First, due to scarce financial and human resources and the lack of generally accepted and accessible methods and measures, not all forms of learning outcomes will be validated and valued in equal measure. The debate on validating and accrediting informal learning clearly shows the difficulties in making it visible and available for the labour market and society.

Second, there is a need for research on the impact of qualifications frameworks and credit transfer systems on promoting lifelong learning and the modernisation of qualifications systems. This should include development of indicators on the links between reference levels and existing qualifications, on modes validating and accrediting learning outcomes, on the permeability between learning programmes and reference levels and on the public acceptance of qualifications frameworks. To develop this topic further in quantitative terms, it would be necessary to elaborate better characteristics of national qualifications systems. Moreover, little is known on the long-term consequences of the outcome-orientation with regard to curriculum development and educational methods and didactics.

From a political point of view, qualifications frameworks are popular because they can be used as instruments for governance and of communication; of building flexible learning pathways and broadening access to education and training. However, when introducing such frameworks, aims should be clearly elaborated. Following other country experiences it seems wise to design frameworks in a loose manner but manage them tightly and to involve stakeholders appropriately. A key element is mutual trust and understanding, whereby existing power relations embedded in the qualifications systems should be considered.

Finally, systematic evaluation of the development, implementation and reform of qualifications systems and frameworks should be part of national, European and international future research agendas. Its findings should provide sound recommendations for effective action, taking into account national and European reform needs and interests.

## 8. Current trends and their influence on VET teachers and trainers

### 8.1. Introduction

The momentum acquired from the modernisation of VET, the labour-market and technological developments, and demographic ageing are common factors that impact on the VET workforce. European drivers interplay with strongly localised contextual aspects: national socio-historical developments in VET, VET teaching and training; national education system and labour market configurations; the shape of VET institutions; VET teacher and trainer initial qualifications; and continuing professional development (CPD) models. This chapter aims to identify common themes and issues for development of VET staff. First it is worth recalling the aspects of VET modernisation that impact on the VET teaching and training workforce.

VET is becoming increasingly driven both by the labour market and varied learner needs, with an emphasis on providing up-to-date technical skills while developing employability. Competence standards are being applied to describe VET learning outcomes and used in assessment. VET is seen as an essential element in the context of lifelong and learner-focused learning. VET has also extended its range of clients and/or stakeholders. These are no longer only students but also industry and employers, employees and their unions, local communities, parents and governments. These changes generate higher expectations of the outcomes and the quality of training (Loveder, 2005).

The types of education and training – and VET-related – reforms pursued in many European countries and on the European agenda (Copenhagen process) that directly or indirectly affect VET teaching can be summarised as follows:

- (a) developing new pedagogies and methods, more learner centred, while renewing the curriculum's objectives and content;
- (b) increasing parity of esteem between general education and VET, bringing curricula closer and providing access to higher education from upper secondary level VET programmes;

- (c) increasing the emphasis on work experience and on work-based learning;
- (d) introducing new forms of assessment and validation of competences, including of non-formal and informal learning;
- (e) introducing qualification frameworks or changing the qualification structure through the introduction of modular systems;
- (f) diversifying education and training provision by promoting new institutions and training providers, often accompanied by decentralisation of provisions and of management of institutions;
- (g) changing funding mechanisms and set criteria to attain efficiency, while preserving equity and quality;
- (h) reorganising and creating authorities and bodies responsible for adult learning and developing a training market where public and private institutions compete (Cedefop, Descy and Tessaring, 2005, p.125-126).

Such reforms demand new teachers' functions and roles which, in turn, should translate into new competence requirements for the initial/pre-service training of teachers and trainers but also for in-service training and CPD.

An additional aspect to consider in modernising VET is that teachers, trainers and other VET professionals are the ground agents of change; they make changes directly in the classroom, training centre and workplace, and are thus indispensable partners in reform. Implementing a reform means not only providing teachers and trainers with appropriate training, it also requires winning their commitment to the objectives of the reform. If the people who are actually teaching, training, managing schools or training centres, providing guidance services, etc., do not understand the purpose of a new policy; what it implies for their organisation or them personally – and how it affects their role, functions and responsibilities – this new policy will face logical resistance and risk failure (Cedefop, Descy and Tessaring, 2005, p. 156). Understanding and keeping up with the changes and reforms affecting

their profession, working in new and more flexible ways and continued commitment to adapt to the dynamics of the teaching profession are major challenges for the VET workforce.

Section 8.2 describes contexts and trends that drive developments in European VET teaching and training. It describes the political context and commitment to the issue at European level (Section 8.2.1). It provides a tentative mapping of professional profiles, qualifications required to enter the profession and CPD in European Member States (Section 8.2.2). It reviews statistical and empirical evidence to discuss the relative share of the VET workforce in the teaching profession, its age structure and skills shortages (Section 8.2.3). Section 8.3 discusses VET teachers and trainers *vis-à-vis* VET modernisation. Section 8.3.1 reviews key recurrent themes for their professional development in Europe and worldwide while Section 8.3.2 discusses how VET professionals can become VET modernisation agents, by shaping and implementing VET reforms and by innovation at ground level. Section 8.4 concludes.

## 8.2. Context and trends for VET teachers and trainers

### 8.2.1. European political discourse

In 2002, the Copenhagen declaration included the learning needs of teachers and trainers as one of the main objectives to be pursued through improved cooperation in VET, under the heading 'quality assurance'. Two years later, the Maastricht communiqué (European Commission, 2004b) defined making the 'continuing competence development of teachers and trainers in VET, reflecting their specific learning needs and changing role as a consequence of the development of VET' as a priority for national action. In 2006, the Helsinki communiqué considered 'highly qualified teachers and trainers who undertake continuous professional development' as a means to achieve 'good governance of VET systems and providers' and ultimately improve the attractiveness and quality of VET (European Commission, 2006, p. 6). This communiqué thus emphasises the need for

a professional VET workforce with high level of skills and initial qualification, which is offered and undertakes continuous professional development. The Bordeaux communiqué states: 'the attention given to quality in national political priorities goes hand-in-hand with growing attention to enhancing the competence of teachers and trainers, the attractiveness of their jobs and their status' (European Commission, 2008, p.3).

A communication from the European Commission (2007c) <sup>(69)</sup> identified the quality of teaching as one of the key factors determining whether the EU can increase its competitiveness. It is also important in the perspective of ensuring sound management of national resources and good value for money as two third of expenditure on schools is allocated to teacher remuneration. The communication also connects teacher education with other key EU policies: social policy, research and innovation policies, and enterprise policy. The communication denounces a lack of coherence and continuity, 'especially between a teacher's initial professional education and subsequent induction, in-service training and professional development' (European Commission, 2007c, p. 5). It advocates a vision of European teachers who are:

- (a) qualified at higher education level, including extensive subject knowledge, good knowledge of pedagogy, skills and competences to support learner-centred teaching, and profound understanding of the social and cultural dimensions of education;
- (b) lifelong learners, developing their skills continually, recognising the importance of acquiring new knowledge, able to innovate and using research evidence to inform their practice;
- (c) collaborative workers in partnership with schools, local communities, enterprises and workplaces.

The communication makes several proposals: ensure that provision for teacher education and professional development is coordinated, coherent and adequately resourced; ensure that all teachers possess the knowledge, attitudes and pedagogical skills that they require to be effective at transmitting knowledge and skills required in modern workplaces; support the professionalisation of teaching; promote a culture of reflective practice

<sup>(69)</sup> It relates to teachers in general education and in initial vocational training.

and research within the teaching profession; and promote the status and recognition of the profession (European Commission, 2007c, p. 16).

### 8.2.2. Profiles, qualifications and continuing professional development (CPD)

Discussing vocational teachers and trainers in Europe means addressing a high variety of professional profiles, career and working conditions within and between countries. Parsons et al., in their contribution to this research report, present the following taxonomy of teachers and trainers in VET (Cedefop, Parsons et al., 2009, p. 13-15):

- (a) teachers of basic or general subjects within vocational institutions, 'general subject teachers'. They work in a VET institution but have substantial interexchangeability with other general education teachers working in lower or upper secondary education. They may also see their professional allegiance as to general and not to vocational education;
- (b) teachers of theoretical or knowledge-based elements of vocational programmes, and of cross-functional vocational content in different programmes, 'professional VET teachers'. They work predominantly in IVET and upper secondary education;
- (c) teachers, trainers and instructors of vocational practice in vocational or prevocational programmes. These 'IVET instructors or demonstrators' usually operate in upper secondary education, although it may also be at the workplace in apprenticeship or alternance programmes;
- (d) trainers, training coordinators or training advisors who, in either IVET or CVT, cater for skills training and knowledge-based learning at the workplace; typically they work in enterprises and for employers. They may be regular employees of a company but also perform some kind of training (initial and/or continuing) as part of their work.

These constitute functional distinctions, which are not necessarily defined legally. The terms used to name these different occupational profiles

may also differ from one context to another, thus adding to the confusion. The distinction between teachers of knowledge-based versus skills- or practically-based content is not universal. Some VET teaching reforms rely on integrated theoretical and practical teaching roles. Also, while both types of practitioners are affected by reforms in professional practice, the impact seems more acute for those teaching knowledge and theory, in particular when it comes to pedagogical methods.

These differences between professional profiles, terms and concepts do not prevent comparisons and the identification of common – and diverging – trends between countries, but some cautiousness is required in making wide generalisations <sup>(70)</sup>.

#### 8.2.2.1. Entry level qualifications for VET professionals <sup>(71)</sup>

Grollman and Rauner (2007, p. 17) based on a comparative analysis of VET teacher education worldwide <sup>(72)</sup> identify four basic models for developing entry level qualifications for VET professionals:

- (a) a model based on recruiting practitioners from a certain occupation, who complete additional courses in teaching and training management techniques usually leading to a teaching certificate, which provides the necessary qualifications for working in the education sector or perform some kind of training within a company;
- (b) a model based on sequential study of the subject matter and a course on general teaching skills in a designated programme;
- (c) a model based on concurrent study of the subject matter and educational science leading to a bachelor or masters degree. Sometimes vocational didactics are added;
- (d) a model based on an integrated conception of vocational disciplines, including subject matter from the world of work (not from the respective discipline) and competence development within this domain.

A complex mixture of national regulations,

<sup>(70)</sup> Cedefop national VET systems database: comparative presentation; training VET teachers and trainers. Available from Internet: [http://www.trainingvillage.gr/etv/Information\\_resources/NationalVet/Thematic/analysis-comp.asp](http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis-comp.asp) [cited 14.11.2008].

<sup>(71)</sup> This section is primarily based on the comparative analysis carried out by Parsons et al., a contribution to this fourth research report (Cedefop, Parsons et al., 2009).

<sup>(72)</sup> Based on articles compiled for the following countries, under the auspice of Unevoc: Brazil, China, Denmark, France, Germany, Japan, Norway, Russia, Turkey, the UK and the US.

statutory requirements and relatively open entry mediated by requirements at VET provider level exists for entry level qualifications for IVET teachers in Europe. Where IVET teachers are employed by the State (as in Belgium, Spain or France), they tend to have civil servant status and to have to pass an examination before entering to employment, to qualify for enrolment. Where VET teachers are employed directly by providers or as casual employees, more diverse entry and legal arrangements apply.

Overall, all four models of VET teacher education as defined by Grollman and Rauner (2007) are to be found in Europe. Several Member States set the minimum educational attainment for VET teachers at degree level, commonly combined with a requirement for pedagogical training (integrated in the degree or in addition to it). A few Member States (Estonia, Latvia, Hungary), set minimum educational attainment at subdegree level and do not specify requirements for additional pedagogical training<sup>(73)</sup>. Although most Member States specify qualification requirements for vocational theory teachers at first degree level, a lower standard applies generally for those teaching practicum or tutors of specific skills.

Although the most common supplementary requirements for entering the profession is pedagogical training, remarkably little (comparative) evidence exists on the content of such training. In many cases, it appears to be designed for general education pathways, and not to include specific vocational pedagogy content.

For around half of the Member States, there is no distinction between educational requirements for IVET and CVT teachers. However, some countries may not require specific pedagogical training for CVT; Denmark, Estonia, Ireland, Lithuania and the Netherlands require lower qualification levels for CVT teachers, and in some other countries

(Cyprus, the UK, etc.) qualifications requirements for CVT are relatively new.

Changes in qualifications requirements are extensive in IVET in most Member States (probably following the trend towards VET modernisation as discussed in the introduction), less common in CVT and rare for trainers<sup>(74)</sup>. There is a trend towards the 'academisation' of the VET teaching profession, i.e. the integration of teacher training into higher education. It is in part facilitated by the introduction of the 3+2+3 model of the Bologna process which influences the structure of higher education<sup>(75)</sup> <sup>(76)</sup>. There is also an increasing, though not yet universal, requirement for pedagogical qualifications as well as for subject-specific vocational expertise.

Many of the national reforms tend, however, to add to the complexity of the qualifications and regulatory requirements affecting entry into the profession. Finland is one of the few Member States which has rationalised and streamlined qualification requirements for VET practice and it is the only European country with common standards for teachers, although the UK is also heading in this direction<sup>(77)</sup>.

The picture that emerges from a review of qualification requirements to enter the profession in Europe is one of very different stages of development of what might be a thrust towards more robust professional underpinning of VET practitioners. National reforms have added to the complexity, and there remains no common tradition for VET teacher training in Europe. Arrangements have seen some common trends such as an academisation of the IVET teaching workforce, but few common developments or threads across the whole of VET practice. Traditions remain very different, with great diversity between – and often within – Member States' reforms and adjustments.

<sup>(73)</sup> This is probably the legacy of VET practice in craft training, which placed the emphasis on holding vocational expertise. The UK used to belong to this group of countries but from September 2007 it has set more demanding requirements by applying VET teaching standards.

<sup>(74)</sup> There are very few regulatory requirements for trainers, with the exception of some apprenticeships based in company in dual systems.

<sup>(75)</sup> Three years for bachelor degree, two additional years for master degree and three for a PhD.

<sup>(76)</sup> National VET systems database: comparative presentation; training VET teachers and trainers. Available from Internet: [http://www.trainingvillage.gr/etv/Information\\_resources/NationalVet/Thematic/analysis-comp.asp](http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis-comp.asp) [cited 14.11.2008].

<sup>(77)</sup> Cedefop's training of trainers network has launched a study 'defining VET professions', on the validation of a common competence framework for VET teachers and trainers.



8.2.2.2. *In-service training and continuing professional development* <sup>(78)</sup>

Despite reform of entry level requirements, any strategy to improve VET teaching capabilities also need to focus on those professionals already employed. Pre-service training is only a foundation which must be supplemented by lifelong continuing training (Grootings and Nielsen, 2005). It is through continuing professional development (CPD) that most gains in the quality and responsiveness of VET across Europe can be realised.

Evidence on the in-service training of VET professionals is scarce, although it is richer in the case of IVET practitioners than for other VET professional profiles. The following observations can be made:

- (a) all Member States have at least some provision for CPD of IVET teachers but most relies on voluntary participation;
- (b) CPD is regulated and mandatory in five Member States (Estonia, Hungary, the Netherlands, Slovenia and Finland) for all IVET teachers. It can also be built into the terms and conditions for IVET teachers employed as civil servants (Belgium, Greece). Germany and Austria have also provisions for VET teachers requiring participation in CPD;
- (c) in other Member States, CPD arrangements may arise from collective bargaining within the sector, placing the obligation on the provider to make some minimum level of time and funding available as part of their contracts with teachers;
- (d) in at least 10 Member States (including the Czech Republic, Denmark, France, Italy, Latvia), CPD relies wholly or substantially on self-motivated in-service development;
- (e) some Member States combine obligatory requirements for some occupations and/or policy priorities with optional CPD (e.g. Lithuania).

The evidence available does not explain the reasons for the emphasis on self-regulated and self-motivated CPD but funding constraint is an issue in many Member States and so is the lack of motivation to undertake CPD. CPD

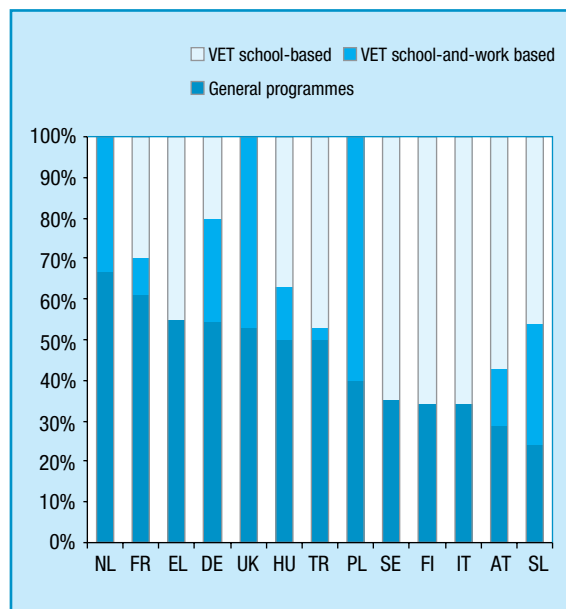
is even less often regulated for CVT teachers and trainers; CPD for trainers in enterprises is mostly voluntary except in those countries where regulatory requirements are set for trainer competence and practice.

8.2.3. **VET professionals: numbers, age structure and skills shortages**

Poor data availability on VET professionals makes it impossible to provide a comprehensive statistical picture of the VET workforce and of the various challenges it faces. Most of the available data concern teaching staff in vocational programmes as described in international statistics <sup>(79)</sup>. Some facts emerge, nevertheless, which are of relevance in discussing trends affecting the profession.

Teachers and trainers working in VET at upper secondary level represent a significant proportion – sometimes the majority – of the teaching workforce at this level (Figure 8:1).

Figure 8:1. **Percentage of teachers and trainers in prevocational, vocational and general programmes at ISCED 3, 2003**



Source: Study on mobility of teachers and trainers, GHK, 2006, p.21.

<sup>(78)</sup> Primarily based on the comparative analysis carried out by Parsons et al. as a contribution to this fourth research report (Cedefop, Parsons et al., 2009).

<sup>(79)</sup> This means that no data are available on teachers and trainers in CVT and, for the available data, no distinction of the various professional profiles is possible.

The VET workforce is 'old', as is the teaching profession in general. It even appears that teaching has a higher percentage of older workers than other professions (European Commission, 2007c) <sup>(80)</sup>. In many Member States (Germany, Ireland, Greece, Italy, the Netherlands, Slovakia, Finland, Sweden and the UK) the proportion of teachers in upper secondary education older than 45 years old exceeds 50 % – reaching up to 79 % – of the total teacher workforce at this level (Figure 8:2). Despite the fact that teaching requires experience and maturity, the OECD (2005a) considers this opens up two main issues:

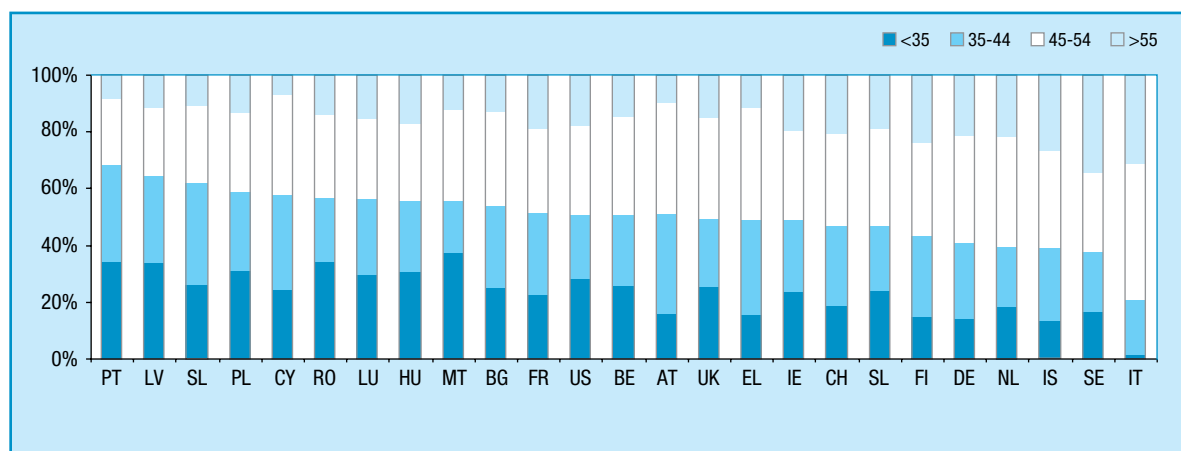
- (a) it increases the cost of education, as there exists a direct link between wage level and seniority, and as more important financial resources and emphasis need to be allocated to the CPD of the workforce as well as to young teachers' training and recruitment to care for replacement demand; all these may reduce resources available to improve the innovative capacity of the system;
- (b) quantitative skills shortages are likely to appear with retirement of the current staff, thus creating a need for recruiting and training new staff – which might become more difficult with fewer young people and lack of attractiveness of this profession – and capturing the knowledge of older professionals.

The labour-market relevance of the technical and work-related knowledge of older teachers and trainers may be reduced as a result of skill obsolescence. Labour market currency of VET learning outcomes means maintaining knowledge of technical aspects while balancing the need for generic employability skills.

Grollman and Rauner (2007, p. 16) indicate that ageing and actual or future skills shortages for VET teachers are not restricted to Member States but are a worldwide phenomenon. Such shortages are also reported as an issue in Brazil, China, Iceland, Japan, Russia, Turkey and the US. However, data on general teaching skills shortages are scarce, let alone skills shortages of VET professionals.

In terms of future quantitative skills shortage, several factors counterbalance the ageing of the teaching workforce, like the reduction of the youth cohort (Box 8:1 presents the factors influencing teacher demand and supply). The picture of the future demand for VET practitioners is thus patchy. Demand planning is, in many cases, immature and the information it produces is not easily accessed or highly fragmented. Parsons et al. identify some future issues for VET teaching demand: high level medium-term replacement demand is a demographic effect on the teacher population itself, due to those leaving practice with retirement;

Figure 8:2. **Teachers and academic staff in upper secondary education (ISCED 3), by age, 2005**



Source: Eurostat online database, UOE data collection, 2005.

<sup>(80)</sup> Nevertheless, between 1995 and 2005, the teaching profession has not been ageing. Despite considerable growth in the proportion of teachers aged over 50 years, in 2005, the age structure of the profession was more evenly distributed between the age groups 25-59, compared to 1995 when the age bracket 30-49 dominated. The median age of teachers actually reduced from 43 to 41 (GHK, 2006).

many Member States experience a reduction of the youth cohort which may result in an over-capacity of the upper secondary system and thus a sharp fall in IVET learners; and some (newer) Member States see demand falling in IVET because of student preference for general education pathways (Cedefop, Parsons et al., 2009).

A recent Cedefop study (2009b) looked at the implications of current and future population ageing for IVET in the EU. The study indicates a likely decline in the number of students in initial prevocational and vocational education and training at ISCED 2-5 <sup>(81)</sup> that will affect the number of teaching staff needed in the future <sup>(82)</sup>. According to projections, almost 150 000 fewer teaching staff (in full-time units) are needed around the year 2030 (Figure 3:5). However, these data do not indicate future skills shortage, or their absence, as replacement demand would also need to be considered in the projections, as well as other factors (Box 8:1).

#### Box 8:1. Factors influencing teaching demand and supply

Discussion in this box applies to the entire teaching profession, with no distinction for the VET workforce. The information and data presented were compiled and computed on behalf of Directorate-General for Education and Culture to support the statistical and analytical work on teachers and training of the Education and training 2010 work programme <sup>(a)</sup>.

Demand for teachers is affected by:

- trends in the number of young people of school age. Eurostat population projections estimate that 22 Member States will experience a decrease in the number of school age children (0-19 years old) between 2004 and 2015 (although this period can be seen as rather short for policies on teacher demand where long-term views are necessary). Anticipated rates vary from -3.85 % per annum in Lithuania to +0.66 % per annum in Ireland. The overall reduction in the number of school age children would mean a reduced demand for teachers if the pupil-teacher ratio and participation rates remain constant;
- participation rates and duration of compulsory education. Compulsory education was 10.1 years on average in 2004 in EU-27 (ranging from 9 to 13 years). Mean country

participation rates of 16-19 years old was 82 % in EU-27 (from 67 % to 90 %);

- pupil teacher ratios, which range from 9.3 to 16.7 in EU-27. The median ratio is 13.3 pupils per teacher;
- qualitative factors such as student preference for vocational or general pathways, the national curricula (introducing entrepreneurship in the curriculum) and special needs, for example linked to immigration or the integration of children with special needs in mainstream education;
- in-country migration/population trends: for example trends particular to one area such as cities.

Supply of teachers is affected by:

- net flow of experienced teachers in and out of the teaching profession. On balance, across EU-27 there seems to be a net inflow of teachers in the age group 30-55 (1.1 % per annum). The inflow into this age group appears to maintain the age profile of the teaching profession;
- the capacity to train new graduate teachers. In nearly all countries this capacity seems to exceed those leaving the profession. Some countries (Belgium, Germany, Spain, France, the Netherlands, Austria and the UK) implemented campaigns to attract students into teacher education;
- the number of new teacher graduates entering the teaching profession. Initiative to attract graduates into the teaching profession may include campaigns, flexible training arrangements and financial incentives;
- the age profile of teachers and the numbers retiring every year. Retirement rates vary considerably (between 0.8 % – Latvia, Lithuania – to 3.1 % per annum – Bulgaria), as do age profiles (from relatively young in Ireland – modal age group is 25-29 – to relatively old in Italy – modal age group is 50-54);
- the number of dormant teachers, as they constitute a ‘hidden reserve’ that increases the scope and potential to combat shortages. These can be very large, from 10 % in Spain to 266 % in Italy, as a proportion of existing teachers.

<sup>(a)</sup> The study commissioned by Directorate-General for Education and Culture estimated the future demand and supply for teachers and trainers and the consequent surplus and deficits that may arise under a base case and four scenarios (two scenarios for changes in demand factors, two for changes in supply factors).

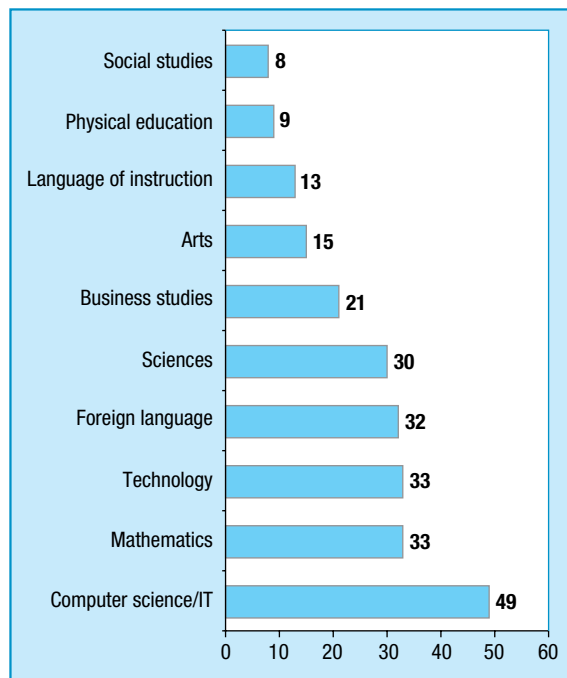
Source: GHK (2006).

<sup>(81)</sup> From lower secondary education up to the first stage of tertiary education.

<sup>(82)</sup> Keeping the current student/teacher ratio constant.

Evidence of current labour-market crisis for posts or vacancies for new entrants to the VET professions are reported in Ireland, the Netherlands and the UK, which suggest more extensive skills shortage (Cedefop, Parsons et al., 2009, p. 48). A recent OECD study on attracting and retaining teachers (OECD, 2005a) attempted to approach the issue, discussing recruitment difficulties in upper secondary education. It indicates relative difficulty, in comparison with other disciplines, in recruiting qualified technology teachers (Figure 8.3). One of the most popular strategies to fill these vacancies is to recruit teachers who do not possess all required qualifications (OECD, 2005a, p. 50).

Figure 8.3: **Average perceived difficulty of hiring qualified teachers in various study areas: mean percentage of upper secondary students attending schools where the principal reported that hiring fully qualified teachers is difficult, 2001**



Note: Proportions by study area are calculated for cross-country means. The countries which participated in the ISUSS survey were: Belgium (Fl.), Denmark, Finland, France, Hungary, Ireland, Italy, Korea, Mexico, the Netherlands, Norway, Portugal, Spain, Sweden and Switzerland. The Netherlands is not included in the calculation of cross-country means as it did not meet international sampling requirements.

Source: OECD, 2005a.

Beyond the intrinsic motivation to teach, salaries and employment and career opportunities are among the most important drivers of attractiveness of the profession, whether it concerns the desire to join, to remain in, or to return to the teaching profession. Wage differentials with other professions, either in the public or private sectors, affect attractiveness and retention. With some reservations the OECD (2005a), concludes that, compared to other occupations, teaching salaries have declined in real terms since the beginning of the 1990s. But general labour-market conditions also play a role in mediating wage effects. In a depressed labour market, the State-employed teachers' job security, pensions, holidays and civil servants status appear to compensate for lower salaries. When labour demand is high, relative wage differentials are more likely to pull graduates with teaching qualifications to the private sector or drag practising teachers out of the teaching profession, especially men. Other factors of attractiveness are the perceived status of teaching, which seems to have eroded compared to previous decades, the nature of the teaching job (affected by migration, heterogeneous classrooms, violence), and career prospects.

Earning level is a common criterion influencing the esteem of a profession. According to Parsons et al., the significance of earnings in the relative esteem for VET practitioners is difficult to assess (Cedefop, Parsons et al., 2009). Three out of the four countries with the most robust increase in VET teachers earnings (Hungary, England and Scotland, OECD, 2005b) during 1995-2002 report low professional esteem for the VET teaching workforce; these contrast with Finland, which seems to enjoy one of the highest levels of esteem for VET professionals across the EU. This may suggest that wage effects are compounded by other specific national characteristics which affect the professional status of the VET teaching and training workforce. Parsons et al. suggest that once this status is damaged or eroded, it can take a very long time before policy will yield results in terms of reversing the trend.

As this section has shown, it is very difficult to discuss the situation and trends affecting the VET workforce based on statistical data. At best, insights are available from information for the entire teaching profession, although it

is not clear whether the VET workforce follows similar patterns. Available data concern teaching staff in vocational programmes as described by international statistics (using the ISCED), without distinction of professional profiles. No statistical information is available on trainers in continuing VET, whether they operate within or outside enterprises.

Improving the statistical information base on VET is one of the objectives of the Copenhagen process. This should include developing international definitions and collecting statistical information on VET professionals working in formal and in non-formal education (in IVET and CVET, in schools, training centres and enterprises). Basic information on fields of education and training where they operate, gender, age, wages and type of employment (type of contract, full-time/part-time) would be required for policy-makers to make informed decisions. In addition, statistical data on net inflow and outflow from the VET profession and of 'dormant' <sup>(83)</sup> teachers and trainers, by field, would also be useful to address potential skills shortages. Finally, as CPD is a key aspect in maintaining the currency of VET professionals' skills and in encouraging acceptance of VET reform, information on VET teacher and trainer participation in continuing training would also be useful for monitoring systems. All this information is necessary, in particular at national level, to analyse current and future supply of teachers and trainers and take evidence-based policy measures when required.

### 8.3. VET modernisation and the teaching profession

An obvious consequence of changes affecting VET is the need for the professional development of VET staff. The recurrent themes for VET teacher and trainer professional development are clearly a direct consequence of developments in VET and of market forces affecting occupations. However, there can be a more active role for VET teachers and trainers in shaping the modernisation agenda, becoming stakeholders in reforms. Teachers and

trainers are the innovation agents in classrooms and workshops, transforming reform into practice and generate their own innovations.

#### 8.3.1. Key themes for VET teaching competence development

Themes and priorities for staff development have to be seen against the shift towards new active and learner-centred methods, the need to respond to changes in skills needs in the labour market, to industry and local markets demands, to the development of ICT and multimedia and against the background of reforms in VET (as described in the introduction). Loveder (2005) has identified some themes for staff development practice worldwide (Table 8:1 presents the themes by regions):

- (a) learner focus: apply and support self-directed learning and cater for individual learning differences, which is characteristic of 'facilitative teaching' (Smith and Blake, 2005, Box 8:2). Building pedagogical expertise, including individualisation of teaching and learning facilitation methods such as coaching, mentoring and self-directed learning is a strategy for modernising the VET teaching profession which is identified in particular in EU literature. Parsons et al. also identify student-oriented teaching and learning approaches as a common thread and recurrent feature of expanding the knowledge base for European professionals, although it can be a long recognised or a new feature depending on the country (Cedefop, Parsons et al., 2009);
- (b) maintain relevance for the labour market: maintain knowledge of technical aspects while balancing the ability to convey generic employability skills. A stronger focus on learners employability is typical of the curriculum shift meant to address labour-market skill needs. It is accompanied by providing and improving learner knowledge and skills in new technologies, materials and working practices. Along the same lines, programmes to boost practitioner awareness of industry and commerce seem to be a common feature of modernisation policies and of provider reforms and responsiveness;

<sup>(83)</sup> Those of working age with teaching qualifications and/or experience in teaching but not in the teaching profession.

- (c) use of technology, ICT and flexible delivery approaches, including means to ensure adequate interaction between teacher and learner in remote delivery settings. According to Parsons et al. nearly all Member States have some programmes to support the development or updating of ICT skills among VET professionals. These can be directed to individual ICT skills or towards developing familiarity with multi-media/e-learning methods (Cedefop, Parsons et al., 2009);
- (d) client focus, developing partnership with industry, customising training provision to industry and local community needs, evaluating and monitoring outcomes. According to Loveder (2005), we have traditionally thought of students as the clients of education. This view has now broadened to include industry and employers, local communities, parents and even governments and nations as clients for VET. According to Grootings and Nielsen (2005), teachers and trainers are no longer the

Table 8:1. Themes for VET teaching staff development practices worldwide

European trends	Australian trends	North American trends
<p>New pedagogical skills (learner-centred approaches)</p> <ul style="list-style-type: none"> <li>• Up-to-date vocational skills (modern technologies and workplace)</li> <li>• Awareness of needs of business and employers</li> <li>• Team working and networking</li> <li>• Managerial, organisational and communication skills</li> </ul>	<ul style="list-style-type: none"> <li>• Develop sustainable partnerships with industry and community</li> <li>• Improve the quality of teaching and learning through course design</li> <li>• Use new modes of learning (individualisation of learning style and preference)</li> <li>• Action-based learning, up-front assessment and individual learning plans</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher-as-learner</li> <li>• Institutional-based curriculum</li> <li>• Instructional improvement</li> <li>• Classroom management</li> <li>• Partnership development</li> <li>• Identifying individual learning characteristics</li> <li>• Alternative teaching methods according to learning styles</li> <li>• Web-based instruction</li> <li>• Distance learning techniques and methods</li> </ul>

Source: Loveder (2005) based on Cedefop, Cort et al. (2004), Grady et al. (2003), Szuminski (2004), Stanford and McCaslin (2004).

### Box 8:2. Characteristics of ‘facilitative teaching’

Facilitative teaching, as opposed to instructive teaching, is a concept resulting from a shift in learning theory underlining that learners already have considerable knowledge and understanding about the world and take an active part in creating this knowledge (constructivism). Constructivist theories of learning suggest that people come to understand the world by drawing on what they already know. This means that different people may develop different understandings from the same learning experience. Sociocultural constructivism underlines interaction with others, i.e. the importance of the process of learning in a social context, as a powerful source of development too. Simple transmission of knowledge, the method of instructive teaching, is not adapted if one applies the current constructivist learning theory model. This is why it is now widely recognised that teachers and trainers should become learning facilitators.

Facilitative learning in VET:

- places emphasis on the workplace to provide meaningful context for learning and problem-solving;
- encourages hands-on and interactive approaches to learning activities so that learners can reflect and perform while learning;
- establishes learning outcomes that are clear in their intent and related to work performance;
- gives learners opportunities to collaborate and negotiate in determining their learning and assessment processes;
- understands learners as ‘co-producers’ of new knowledge and skills;
- recognises prior learning and life experiences as valuable foundations for constructing new knowledge and skills;
- uses flexible learning approaches that address the different learning styles of students;
- values social interaction and learning in groups.

Source: Smith and Blake, 2005.

executors of education programmes decided by others. Instead they have to adapt learning processes and outcomes to the specific – and changing – needs of their students and the local labour market.

- (e) peripheral competences and skills, counselling and vocational guidance, management and administration, research skills, etc., appear also to be mentioned in relation to broadening the knowledge and skills base of VET professionals. However, despite rhetoric on this issue, evidence of such a development is limited in Europe;
- (f) technical education system expertise, for example understanding quality assurance systems, qualification systems and framework, recognition and assessment of learning outcomes and of prior learning.

### 8.3.2. Ground agents of change

In the third research report (Cedefop, Descy and Tessaring, 2005), we already underlined that teachers, trainers and other VET professionals are the ground agents of change and indispensable partners in reform. If the field actors are involved in, and convinced of, the necessity and relevance of reform, there is a higher probability that change will be implemented and yield the intended results. Viertel et al. (in Cedefop, Viertel et al., 2004, p. 191) conclude '[...] any VET policy evaluation needs to pay specific tribute, amongst others, to the professionalisation and continuous development of teachers and other education specialists, as they are the key to the success of any systemic VET reform effort.' Thus, reforms that affect the pedagogical role and functions and structure of VET (such as the qualification structure) must be translated into initial and continuing training needs of VET professionals. This sounds obvious but various examples show that it is not always the case.

In an analysis of the changing work roles of VET practitioners in Australia, Harris et al. (2005) summarised, from a teacher survey, factors which may be affecting reactions to changes in VET systems:

- (a) 'the degree to which teachers and trainers feel a sense of ownership over the implementation processes they are being asked to follow; [...]
- (b) the extent to which teachers and trainers feel

they have the support of their colleagues, managers and other senior staff in implementing change;

- (c) their access to information about the implementation of the changes they are being required to make;
- (d) teachers' and trainers' knowledge and understanding of the reforms;
- (e) their previous experience in implementing reforms [and] change;
- (f) teachers' and trainers' perception of the suitability of the systems provided to them in support of the changes [...];
- (g) opportunities for professional development and access to resources to support implementation of reforms.'

Thus, 'teachers and trainers cannot be viewed as "neutral conduits" [...] through which change can flow unhindered' (Harris et al., 2005, p. 70). They have their own interests to protect and promote and concerns about the mandated nature of some changes. 'The almost total absence of teachers and trainers from the policy-making process [...] has resulted in teachers and trainers feeling disempowered and therefore unable or unwilling to engage in the change process' (Harris et al., 2005, p. 70). Thus involving VET teachers and trainers in shaping reforms agendas is crucial.

Involving teachers and trainers in reform is usually achieved through union representatives or teacher associations. Parsons et al. highlight the difficulty of getting a European overview of VET practitioner engagement in shaping the modernising agendas. Nonetheless, their impression is that trade unions dominate the process where there are established arrangements for social dialogue, and where trade union structures provide for a distinctive (and effective) voice from VET practitioners. Even here, the influence is variable (and not always very clear), and may be centred in some Member States on essentially protective interests concerned with security, remuneration and benefits. On the evidence Parsons et al. gathered, it seems that robust and broadly-based VET teacher engagement in helping to shape the national VET modernising agenda is limited. For VET trainers, it seems almost non-existent (Cedefop, Parsons et al., 2009).

The ETF (*ETF yearbook 2005*), based on its experience in supporting VET reforms process

in candidate and partner countries, goes a step further and advocates for including the VET profession in policy learning processes; 'key stakeholders should develop the capability to help formulate VET policies and establish platforms for discussions of reform initiatives, embedded in schools and fitting into their contexts, and thus foster the ownership and the sustainability of VET reform' (Grootings and Nielsen, 2005, p. 26). The ETF approach to policy learning follows a constructivist approach that underlines the role of policy-makers as learners and actors engaged in system reforms. Policy learning is, therefore, embedded in policy practice. The ETF proposes creating communities of practices in policy learning, encompassing the main stakeholders of the VET system in reform, also including VET teachers and trainers. It emphasises active engagement of national stakeholders in developing their own policy solutions based on the understanding that there are simply no valid models but, at most, a wealth of international experience in dealing with similar policy issues in different contexts (Grootings and Nielsen, 2005; Cedefop, Grootings and Nielsen, 2009).

Accomplishing change means influencing deeply embedded practices, routines, and beliefs, among teachers and trainers. It also means preventing resistance to change or attenuating its impact. Transforming education and training professionals into change agents contributes to achieving this, i.e. recognising the central role of teachers in bringing about innovation in teaching (Flamini and Raya, 2007). Action-research (Box 8:3), i.e. the systematic enquiry into one's teaching practice, is another means of bringing changes and innovation in VET, starting at classroom and workshop level, bottom-up. Action research nowadays occupies a prominent role in teacher professional education. It aims to improve practices rather than generate abstract knowledge. It helps reveal problems, issues and areas for improvement as perceived by the teacher or trainer and entails actions, which feedbacks into the situation. Thus action research is small-scale and conducted by practitioners, ideally with the support of external experts or researchers. It involves the examination of current practices, implementing new practices, and evaluating the results, leading to an improvement of teaching practices. Such improvements

in practice are result from extended teaching and training practitioner understanding of their situation. In action research, VET teachers and trainers are the agents of change, playing a central role in their self-development, adaptation and self-renewal. Action research in education integrates teaching, teacher professional development, curriculum development and evaluation, research and reflection, where theory directly informs practice (Flamini and Raya, 2007, p. 105-122).

### Box 8:3. Action research

Action research is a reflective process of progressive problem-solving led by individuals working with others in teams or as part of a 'community of practice' to improve the way they address issues and solve problems. Action research can also be undertaken by larger organisations or institutions, assisted or guided by professional researchers, with the aim of improving their strategies, practices and knowledge of the environments within which they practice.

Kurt Lewin first coined the term 'action research' in about 1944. He describes action research as a way of conducting social science and as a means for dealing with social problems through a process of both changing and generating knowledge about the system.

Source: Yorks (2005, p. 376). Wikipedia, available from Internet: [http://en.wikipedia.org/wiki/Action\\_research](http://en.wikipedia.org/wiki/Action_research) [cited 17.11.2008].

VET teachers and trainers play a dual role in changing, reforming and modernising VET systems. They may shape and implement reforms and they may generate their own changes and innovations. To achieve this, VET professionals must be partners and stakeholders in change and reform, and innovation agents at ground level in the context of action research.

## 8.4. Conclusions

In modern VET systems, teachers and trainers are both professional educators and key change agents. Their competence and effectiveness appear to be the cornerstone of European level reforms of VET. Continuing education and development, driven by various forces impacting both teacher and student needs and informed by the process of VET modernisation, should become a core task of professional teachers



or trainer. This chapter has reviewed several structural determinants impacting on the VET teachers and trainers roles and learning needs. From a policy point of view, career attractiveness, ageing and skills shortages are also key issues to be considered for this profession.

However, one of main conclusions of this review is that, although structural changes affecting the VET workforce are generally well-documented and evidenced, actual practices of teaching and learning in VET schools, training centres and in enterprises are not: it is not possible to confront the discourse on new learning needs and themes for VET teaching professional development with the realities of daily work. Very little is known on the specific impact of continuing VET reform on teachers and trainers. Information is also poor for documenting teacher and trainer initial and continuing professional development in terms of participation rates, fields, themes and skill transmission modes. Currently much research energy appears to be spent on mapping the various types and profiles of VET professionals in Europe.

Good international definitions and statistics to map the field are nonexistent. Further, empirical international research on VET teaching work

practices does not appear to be available, if it happens to exist nationally. Policy-makers may find themselves caught in a discourse that is far from actual classrooms, workshops and workplaces practices and relates poorly to the reality of teaching and training in VET.

However, as a motor for professional self-development and local innovation, action research seems to be particularly adapted and should be used as a tool to empower VET staff. Following on empowerment issues, the ETF recommends making VET teachers and trainers stakeholders of reforms and actors of policy learning. In countries in which tripartite and social dialogue is embodied in institutions, teachers unions have the means to influence the VET modernising agenda. This may not be the case in other countries, where involvement of (VET) teachers and trainers in reform appears to be limited or inexistent. Both action research and making VET teachers and trainers key actors of reforms touch on the role of VET teachers and trainers as ground change agents but if the very people who are involved in the daily delivery of VET are not familiar and convinced about the purpose of reform, this reform is due to meet resistance or to fail.

## 9. Information, advice and guidance

### 9.1. Introduction

In most countries, people can receive career-oriented information, advice and guidance (IAG) while in education, training or in the labour market. The service is intended to help people make not only well-informed occupational choices, but also educational decisions in relation to future or current working life <sup>(84)</sup>. IAG aims to help people clarify their interests and values, identify their skills and reflect on their experience. It is targeted towards developing individual personality and raising people's awareness of the options available to them. IAG helps people to formulate plans, to make career-oriented decisions, and to take actions accordingly.

Career-related IAG can be provided at all stages of life, i.e. in education and training, while searching for a job, and while in employment. It is aimed at young students, adults and senior workers. It can be provided in various institutional settings: within formal education, in the workplace, or while participating in employment programmes for jobseekers. In EU Member States, IAG is designated under various names such as 'career guidance', 'career information and guidance', 'guidance and counselling', 'information, career counselling and vocational orientation', 'professional guidance', 'vocational guidance' or 'work-oriented guidance'. Several authors provide tentative definitions of the basic concepts (Borgen and Hiebert, 2006; Mitton and Hull, 2006). The research literature defines information as the simple provision of flat and uncommented data. Advice would additionally involve directions on how to access and use the available information, while guidance would typically extend the provision to tailoring the service to the client/user specific needs and circumstances. Borgen and Hiebert (2006) characterise counselling as going as far as helping clients/users develop new perspectives and design action plans. IAG provision – whatever the various terms refer to exactly in different countries – generally includes

multiple activities including providing information, counselling, competence assessment, mentoring and training for decision-making and for career management skills.

The provision of such occupational or occupation-oriented IAG in a lifelong perspective in the education, training and work systems of Member States is the subject of this chapter. It comprises an up-to-date review of the research literature on the main issues in current IAG practices, policies and research in the EU. The aim is to outline why and in what ways IAG, as a dimension of VET, needs to be modernised in the perspective of the Copenhagen process.

The chapter is structured as follows. Section 9.2 outlines the major reasons why IAG is important for achieving the Lisbon goals. Section 9.3 deals with the major issue of the fragmentation of IAG. Section 9.4 will be devoted to the topic of modernising IAG practice. In Section 9.5, the implications for IAG practitioner training are addressed. Section 9.6 presents some problems with IAG research. Finally, Section 9.7 concludes.

### 9.2. The role of IAG in achieving the Lisbon objectives

On the 28 of May 2004, the Education Council of the EU adopted a resolution on lifelong guidance (Council of the EU, 2004). This resolution outlined the importance of IAG in achieving the Lisbon goals. Research literature has specifically examined two core missions assigned to IAG: to support educational achievement and to improve the efficiency of career-oriented decision-making.

#### 9.2.1. Supporting educational achievement

Two mechanisms explain why IAG can support educational achievement. First, as Borghans and Golsteyn note, convergent conclusions from different authors show that the more educated people are, the more they benefit from further

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<sup>(84)</sup> Some authors, however, have a more comprehensive understanding of IAG including 'leisure classes for pleasure or social interaction, (and service provision) for active retirement or for unpaid opportunities like volunteering' (Mitton and Hull, 2006).

learning: 'skill attainment at one stage of the life cycle raises skill attainment at later stages' (Cedefop, Borghans and Golsteyn, 2008). Good timing is, therefore, of importance to increasing learning achievements over the life span. As a consequence, improving the provision of IAG from initial education onwards can help people save time in making education- and training-related decisions, which would ultimately contribute to maximising education and training attainments throughout life.

The second mechanism explaining why IAG may support educational achievement is based on the observation that 'poor information about the future prospects of a chosen field of study also reduces the incentive to put effort in the study. [...] students who have a less clear picture about their future study fewer hours per week [...]' (Cedefop, Borghans and Golsteyn, 2008). Therefore, improving IAG provision might boost efforts to study. In terms of the Lisbon goals, both effects might contribute to supporting educational achievement, knowledge and innovation.

### 9.2.2. Improving the efficiency of career-oriented decision-making

The second mission assigned to IAG in the Lisbon process is to improve the efficiency of career-oriented decision-making. Decision-making is a complex process. First, as Grubb (2004) outlined, rational decision-making presupposes such abilities as a clear awareness of one's own preferences on various options some of which may be unfamiliar; awareness that personal preferences may change through time; and the capacity to differentiate between high-probability and low-probability events. Second, decision-making supposes availability of information. Borghans and Golsteyn have given examples of estimates of misinformation-resulting inefficiency in career-oriented choice at education and labour-market levels (Cedefop, Borghans and Golsteyn, 2008). They use the percentage of people regretting their choice as an indicator of choice inappropriateness. The rationale behind this is that information people have improves with time. Regretting their earlier decisions would mean that they would not have made the same choice had they been as well informed as they are at some later stage. Therefore, regret indicates inappropriate information

and inefficient decision-making. Borghans and Golsteyn applied their approach to testing the efficiency of career-oriented choice in both initial education and continuing training.

Using a Dutch sample of graduates, they found that 21 % of initial education respondents regretted their educational choice 18 months after entering the labour market. Such a percentage indicates that IAG provision must be improved to avoid people having to retrain just to correct their errors in initial career-related choice. Retraining to repair inappropriate initial education and training is not only costly, both in direct monetary and indirect opportunity costs, but it also generates two types of additional cost. The first is the net cost of the inappropriate training period; the second is the loss of educational potential and productivity due to the delayed acquisition of the basics on which further training and knowledge acquisition can build. Borghans and Golsteyn demonstrated that the need (and cost) of retraining may be reduced through improving IAG provision. Based on a sample covering 6 300 graduates from Dutch high schools and colleges, they observe a statistically significant negative relationship between school provision of study-counselling and student level of regret over education choice. The conclusion is that IAG may be an effective tool in improving the quality of career-oriented decision-making at initial education and labour-market entry levels.

In continuing training, people often face difficulties some of which can be addressed through IAG. First, adults in the workforce often feel it quite difficult to find their way in training supply, which has undergone considerable change since the time they were studying. Grubb (2004) emphasises the magnitude of change people face: knowledge-based economy and society imply rapid change not only in technologies and occupations but also in the education and training landscape where institutions themselves try to adapt. Hence, for people who are considering training, selecting which programme or course to follow to address occupational needs may be a challenging task. Based on a representative sample of the Dutch population, Borghans and Golsteyn show that among workers aged 40 or more, the percentage of those feeling they miss good career-oriented information increases steadily with age (Cedefop, Borghans and Golsteyn 2008). Here too, IAG

provision can help improve efficiency in training decisions. The authors show that 18 months after participation in training courses, the level of regret among workers who received substantial manager-support for choosing the right training course is only half of the level of regret among workers who did not receive support (10.8 % versus 19.8 %).

Next, Mitton and Hull (2006) stress that the need for guidance is ever-more urgent for older workers. These are often low-skilled and particularly need to update their knowledge, skills and competences. Older workers also need to consider new professional perspectives and lifestyles after years spent in the same activities.

IAG could also help adults in the workforce to choose the right timing for training. As Borghans and Golsteyn note, '... many workers realise only late that a certain course could be useful to them' (Cedefop, Borghans and Golsteyn, 2008, page 307). In their study, they find that around 50 % of workers who participated in a training course declared that they regret not having attended this course earlier. Improving IAG provision might contribute to better timing in continuing training.

Mitton and Hull (2006) have focused on the particular role of IAG for economically inactive seniors. Based on a study in the UK, they observe that 27 % of adults aged from 50 to the State pension age are 'inactive hidden unemployed, many of whom are experienced and would like to work'. For policies on labour and skill shortages, demographic change and increasing the State pension age, providing these potentially active seniors with appropriate IAG services is important.

It can be concluded that improving career-guidance might be an efficiency factor in career oriented decision-making, not only at initial education level but lifelong. Watts and Sultana (2004) pointed out that the improved efficiency might in turn result in increased human capital, higher wages, and additional economic growth. In terms of the Lisbon goals, this implies a potential positive effect of efficient career choice on social cohesion, employability and occupational mobility, hence providing the economy with sufficient numbers of well-qualified workers necessary for economic competitiveness and sustainable growth.

### 9.3. IAG fragmentation

The lack of homogeneity in IAG appears as a major issue in research literature. Several authors have emphasised the diversity of theoretical and methodological approaches, practices, target groups, objectives and concerns among career guidance counsellors. Amundson (2006, p. 5-6) summed up the international situation: 'there are many different groups of career guidance counsellors and they each have traditionally worked in isolation from one another. There are counsellors working in the schools, in post-secondary institutions, in employment agencies, with private and public organisations, and so on. Each group has its own professional associations and there is very little overlap among the various groups. What is needed at a very basic level is greater integration and 'fusion' of occupational and organisational guidance at both a theoretical and practical level'.

Another example is given by Sultana and Watts (2006) who observed, from a survey in 25 Member States, differences in the approach to career guidance between public employment service staff and guidance personnel in schools: 'while guidance staff in schools are inclined to emphasise open choice, public employment service staff tend to focus rather more on the opportunity structures available and to stress pragmatism and realism in decision-making. The tension between the two approaches can limit cross-sectoral collaboration'.

The variety of activities performed by IAG practitioners is impressive. Plant (2004) distinguishes 14 different activities: informing; advising; assessing; teaching/career education; enabling; advocating; networking; providing feedback; managing; innovating/changing systems; signposting; mentoring, sampling work experience or learning tasters; and following up. McCarthy (2004) recalls additional roles of coaching, social insertion and work placement. Frade et al. (2005, p. 14) emphasise that coordination mechanisms between actors and an integrated approach to guidance are lacking or, at least, ill-developed in Germany, Spain and France (see also Beraud

et al., 2007). They also note that, even at national and government levels, guidance policy may be not centralised since different ministerial departments may each control a specific type of guidance, the guidance provision in compulsory education (ministries of education) and the guidance provision for adults (employment ministries). In recent years, this fragmentation has been reinforced by decentralisation and marketisation.

Research (Frade et al., 2005, p. 12; Sultana and Watts, 2006) has stressed that, in several Member States, IAG provision tends to be decentralised to regional authorities. Decentralisation has recently occurred in Spain, France and the UK, for example. It implies that local authorities decide and implement their own policies and programmes. Most often, decentralisation is justified by the search for more responsiveness to local needs, especially to the needs of local labour markets, and for better account of specific local conditions and circumstances, thus allowing for better accuracy and appropriateness in service provision.

Marketisation is the second major force leading to fragmentation. Traditionally, guidance provision in Member States tends to be operated by public services in compulsory and higher education as well as at labour-market entry level (public employment services, for jobseekers). Private providers operated at workplace level. In recent years, two major changes occurred. First, trade-unions have been more present in career guidance activities for the employed on the shop floor (Cedefop, 2008d: p. 45), as in the Czech Republic, Denmark, Finland and the UK. Second, private providers have gained importance in guidance for jobseekers. This latter change is linked to continuing reform of national public employment services, deemed monopolistic and inefficient. Making public employment services more efficient has been a recurrent concern of the European employment strategy since it was launched in 1997. As a consequence, during the last decade, Member States have opened up or enlarged access of private providers to employment services. Several authors (Frade et al., 2005, p. 37; Sultana and Watts, 2006) show that public employment services in many countries were led to contract out their guidance services to private providers chosen directly or through procurement procedures. This has been the case in Belgium,

the Czech Republic, Spain, France, Italy, Hungary, Austria, Slovenia, Slovakia and the UK.

This fragmentation is, to some extent, justified. Decentralisation and marketisation could lead to more efficiency and responsiveness to user needs. In addition, as suggested by Watts and Sultana (2004), allocating guidance personnel to different types of counselling tasks (for example some having more knowledge of the labour market) might be a better way to address the variety of user needs. However, fragmentation raises several issues which have attracted attention in research.

Marketisation entails specific risks, the main problem with outsourcing, as Sultana and Watts (2006) indicate, being quality. The question is how to ensure high and constant quality of guidance services. This leads to the introduction of standards. Sultana and Watts observed that in several Member States, reinforcing the marketisation of guidance services was followed by the introduction of quality standards either imported from existing generic quality frameworks (e.g. ISO) or specifically developed for the field. However, standardisation in turn raises the problem of flexibility in implementation and room for initiative in provider and practitioner activity. Finding the right balance is an unsolved challenge.

Decentralisation also leads to the problem of standardisation. Frade et al. (2005) suggested that decentralising may lead to divergent quality and, therefore, inequity of provision across territories. In this sense, decentralisation also raises the issue of setting quality standards, and consequently that of balancing standardisation and local initiative. Sultana and Watts (2006) also observed that decentralisation can impede the dissemination of national labour-market information and hamper labour-market mobility.

Another important issue addressed in the literature is the steering of IAG policy. IAG has garnered interest in EU policies over the last decade. Frade et al. (2005, p. 4-14) suggest that both the European employment strategy and the European Council 2004 resolution on lifelong guidance see guidance as a strategic instrument for mediating between education, vocational training, employment and related social policies. These authors explain that positioning guidance 'as a component of education, training and employment

policies could actually make it a pivotal instrument for achieving the improved coordination, and even integration of these policies' (Frade et al., 2005, p. 11). For example, guidance is a core instrument in active labour-market policies in the European employment strategy: jobseekers are encouraged to use guidance services to speed up their job search and, in exchange, can apply for social protection. Similarly, in the 2004 resolution, guidance appears as a tool to ease transitions between education and work. Another area is that of lifelong learning. Providing lifelong guidance on training programmes, on financial and other support available, on the labour market and for career planning is obviously a necessary condition for effective lifelong-learning policies. Finally, lifelong IAG might also support policies aimed at extending working life (Mitton and Hull, 2006).

The increasing fragmentation of the universe of IAG is a problem, the consequence being that the notion of guidance policy, which suggests an integrated body of objectives, means and actions, looks fictitious. Fragmentation puts the steering of 'guidance policy' into question and, therefore, makes it questionable whether it is possible to use guidance as a control instrument for education, employment and social policies.

## 9.4. Modernising IAG practice

Modernising IAG practice has attracted much attention in the research literature. Two major themes are discussed: the use of ICT, and the need for a more holistic approach.

### 9.4.1. The use of ICT in IAG

In its 2004 report on career guidance, the OECD (2004a, p. 76) emphasised the need for extensive use of information and communication technologies to widen the provision of and the public access to guidance services. As Watts and Sultana (2004) noted, this would match the available tools to the tasks and functions for which they are best fit. Face-to-face interviews could be focused on those users who need the most intensive interventions, while self-help methods could be developed for others.

Watts and Sultana also identify two additional

arguments for extending the range of guidance tools beyond the traditional face-to-face interview. First, it would be too expensive to use the personalised approach to meet all lifelong guidance needs. Second, they outline that recent advances in career development theory have drawn attention to the need for individual autonomy, and suggest the relevance of new tools.

In their 2006 survey in 28 European countries<sup>(85)</sup>, Sultana and Watts (2006) observed that most Member States have made major investments in ICT to develop self-service access to career guidance. A recent Cedefop report on lifelong guidance developments in the EU acknowledges this trend and describes emerging practices (Cedefop, 2008e, p. 43). Fowkes and McWhirter (2007) have reviewed research findings on computer use in career guidance. Research generally concludes that most users of computer-assisted career guidance systems (CACGS) are satisfied with these tools, and that CACGS seem to have positive effects on career maturity ('readiness to cope with vocational development tasks'), on commitment to career decisions, and in terms of making career decisions easier and more effective. However, they also make it clear that several methodological problems (Section 9:6) are still to be solved before sound evaluation of CACGS will enable a better understanding of the added value of these tools and how best to use them. Similarly, Sultana and Watts (2006) argue that not all potential users have sufficient digital abilities to use these tools in self-help mode. Another possible limit is that new technologies and computer-based career guidance have been found more effective when used with support of counsellor(s) during face-to-face or group sessions than in self-help mode (Whiston et al., 2003; Harris-Bowlsbey and Sampson, 2001). It should also be established whether access to these tools is an issue or not as those who are most in need of ICT supported guidance tools might have less access to them.

### 9.4.2. The need for a holistic approach in IAG

While career guidance has long been focused on working life, several authors have recently emphasised the need for a more holistic approach.

<sup>(85)</sup> 25 Member States plus Iceland, Norway and Switzerland.

This issue is not new (Super, 1963; Holland, 1973), but is now being rediscovered. The aim is to take stock of changes in people's approach to work and life, and of such contemporary aspirations as 'wholeness', 'integrity' and 'authenticity'. As Lairio and Penttinen (2006, p. 154) explain: 'people who make the transition to working life are not merely seeking to earn a living and ensure continuity, they are also looking for a job that will enable them to realise themselves in ways that are personally satisfying'. They state that 'career guidance should not only concern a student's future profession, but should also link up with complex questions about the student's identity and personal orientation with regard to the future'. Hansen (2005) has suggested that there is a need to integrate personality and vocation, insisting on the idea that the philosophical framing for this integration should not be imposed by the counsellor, but should be drawn from the counselee's values and views. Similar valuing of the role of counselee subjectivity in making options meaningful can also be found in earlier work by Guichard (2001) and Patton and McMahon (1999).

Different ideas have been proposed to address this demand for a global approach, with the following two selected as examples. First, Patton (2005) developed a constructivist approach to career education, holistic in the sense that 'events, behaviours and attitudes can only be understood in connection with the context in which they are located'. It is constructivist as it considers that 'meaning or learning is generated from within the individual in relation to his or her experience of the world'. Patton emphasises that 'contrary to the trait and factor approach, it is not so much the individual ability, value, or belief that is targeted, but rather the meaning that clients ascribe to these constructs as a result of connection with other elements of their system of influences'. This approach is, therefore, centred on learners, which have to be prepared for lifelong learning by schools.

In this constructivist perspective, the important element is that learners process the (self, occupational and contextual) information they are provided with in a manner relevant to them. For this purpose, they may rely on such methods as 'journal writing, development of career action and career renewal plans, and construction of personal portfolios'. Within this framework, the role

of teachers is to act as advisors, learner managers, development specialists or career development facilitators, all terms taken as synonymous. Schools themselves are urged to allow learners 'to develop learning systems appropriate for their own developmental needs'. In addition, at school and social level, career education should be promoted from its current marginalised status to full integration in curricula as well as in the political and social agenda.

Another recent holistic proposal is advocated by Watson and McMahon (2006). In this system-theory inspired approach, called 'My system of career influences', guidance activities are based on a model connecting personal, context and process dimensions which influence career advancement in a lifespan perspective. Within this framework, guidance activities are structured around the interactions between personal attributes and aspirations (who I am), the people around (the social system), society and the environment (the environmental-societal system), and conceptions of past, present and future (context of time). The model also takes account of the dynamics of career development and includes such notions as change over time and hazard. The aim of this approach is to raise practitioner awareness of the multidimensional nature of career guidance and to meet user/client needs for wholeness in approaching their personal and professional aspirations.

## 9.5. Modernising IAG practitioner training

Several authors have addressed the issue of guidance counsellor training at international level. Six major problems can be identified from reviewing the literature, the following three being stressed by McCarthy (2004).

First, training programmes have sometimes not kept pace with the changing career context. In many cases, counsellors lack economic understanding of the labour market and also lack familiarity with the diversity of career paths.

Second, the use of and the trainees' familiarity with ICT, the Internet and distance education is sometimes insufficient.

Third, training programmes do not give sufficient prominence to accountability. McCarthy notes that

'training related to helping guidance providers to be more effective in addressing accountability issues is largely absent'. Watts and Dent (2006) stress that this is essential to raising professional awareness of the public policy dimension of guidance.

Fourth, Watts and Dent (2006) suggested that more attention should be paid to productivity aspects in the curriculum of career guidance training. Future professionals should be aware of the costs incurred by their activity, of the links between costs of input and output, and of such notions as the best use of resources.

Fifth, technical qualifications of IAG professionals are also an issue. Watts and Sultana (2004) have emphasised that 'often, qualifications from apparently related fields – such as teaching and psychology – seem to be regarded as proxies for guidance qualifications, without any verification of whether they assure the requisite competencies or not'. Lack of qualifications was also pointed out in a recent Cedefop report on guidance for employed people (Cedefop, 2008d, p. 40). McCarthy (2004) emphasised that there is a lack of regulation in guidance professions working in the labour-market sector, as compared with their colleagues in the education sector. Guidance training and qualifications are rarely required, which generates a qualification gap between professionals from both sectors. This results in several deficits: communication, of understanding and of cooperation between professionals of both sectors; recognition and of occupational mobility between sectors; and professional status and occupational mobility within the labour market sector.

Finally, the sixth major problem outlined in the literature is the multicultural competence of guidance counsellors. Multicultural understanding is necessary to cope with users' diversity both in education and training and in the labour market. Especially in education, Alexander et al. (2005) have pointed out the need for multicultural training for school counsellors. They note that efforts have been made to include multicultural courses in school counselling curricula, but insist on the importance of immersing trainee counsellors in international field experience, i.e. practical programmes in culturally diverse sites.

## 9.6. IAG research weaknesses

Literature also addresses the weaknesses of IAG research. Watts and Sultana (2004) have pointed out the scarcity of data and evidence on user profiles and needs, on guidance services supply, costs and outcomes. It might be added that systematic data on user satisfaction are also rare. In their study on guidance service productivity, Watts and Dent (2006) recommended that these services 'be encouraged to collect regular time-series data on staff resources (full-time equivalent staff; staff time) in relation to client throughputs (number of clients; length and nature of career interventions), plus client satisfaction data. In addition, they should explore what further evidence can be collected in relation to outputs and outcomes' of IAG. Such data would be important for guidance service administration and for policy-making. Watts and Sultana pointed out the weaknesses of guidance research in this respect. They observed that 'few countries have established specialist career guidance research centres or research programmes to develop the knowledge base in a systemic way. There is also a need for university chairs to provide status and intellectual leadership for the field: few countries have such chairs at present'.

The lack of efficacy studies, in particular, has been outlined by Bernes et al. (2007). These authors insist on the need for evaluation of IAG interventions and for documenting effective practices and processes. They note that 'the field of career guidance and counselling has very few studies establishing what specific components of career guidance and counselling are helpful and what may enhance counselling effectiveness'. This kind of research would be of great interest to practitioners, helping them better to identify and use effective tools, techniques and processes, and drop the ineffective ones. It would also help improve the training of future practitioners. Cost-effectiveness research would mainly be of interest to administrators and policy-makers. Bernes et al., therefore, urge more efficacy research using various relevant methods (qualitative and quantitative), experimental designs and longitudinal perspectives.



They also recommend that researchers make sure their research design is meaningful to readers from different cultures, to ensure ability to generalise and compare.

The topic of computer-based IAG research has also been addressed. Fowkes and McWhirter (2007) have argued that research is limited and several methodological weaknesses affect the results: small samples; no account taken of the differential effects of gender, ethnicity and socioeconomic status, the importance of which career development literature acknowledges; and studies conducted without any control group. Fowkes and McWhirter (2007) also outlined the difficulty in selecting and measuring independent variables in this field since computer-assisted career guidance systems are composed of modules which not every user uses.

## 9.7. Conclusions

A review of the research literature confirms that IAG has an important role to play in achieving the Lisbon goals. IAG provision is essential for efficiency in career-related decision-making over the lifespan: better IAG provision might contribute critically to the economic and social objectives of the Lisbon process. Research suggests various ways of modernising IAG practice and maximising its impact: approach guidance and counselling holistically, to

fit better the expectations of contemporary users; develop the use of new technologies in IAG practice, and elaborate strategies to include ICT in the practitioner toolbox; improve the counsellor curriculum through reinforcing the basics of guidance training and introducing or developing such topics as labour market analysis, familiarity with ICT, and awareness of such issues as accountability, productivity and multiculturalism.

Further research is needed to support the design and process of IAG modernisation. Studies that address in what ways IAG actually contributes to educational achievement and in improving the timing of adult learning are welcome. Research on the role of IAG in returning economically inactive seniors to the labour market, and on the contribution of IAG to social cohesion, employability, competitiveness, growth and other aims of the Lisbon process, are needed. It is also necessary to examine more closely the issue of fragmentation, especially on how to reconcile the need for specialisation, responsiveness, flexibility and efficiency with social and territorial equity, and with coherent policy steering. Finally, more research on the activities, costs, supply, outcomes and users (including their satisfaction) of the IAG sector, as well as efficacy studies on the tools, techniques and processes of IAG practice is called for. Research in these fields would certainly be of major importance in improving relevance, quality, and effectiveness in future European IAG practice, administration and policies.

## Conclusions and recommendations for VET policy and research

The socioeconomic context and changes are major determinants of VET development. Globalisation and its consequences for European economies and their competitiveness, population ageing, unemployment, labour-market skills needs and shortages, improving enterprises' economic performance and preserving the European social model are all key factors exerting pressures on VET, pushing for its modernisation. The combination of these drivers generates uncertainty for economies, communities and individuals and good governance of VET is one of the policy challenges to give an effective response.

European and national policy has set high expectations for VET modernisation. It should become more responsive to changing labour-market needs and flexible enough to address skills imbalances and shortages. It should be an attractive option for young people and adults to foster the acquisition of professional qualifications and their updating throughout working life. Professional competences and skills delivered through VET should be a model of excellence while being transparent to all actors at individual, company and State level. VET should promote high skills level within the EU population as well as active social inclusion and citizenship.

Research, however, emphasises the key role of VET in addressing such socioeconomic challenges. VET not only reacts to change, it can become a driver of success and competitiveness for European economies and societies. Throughout this publication, we have gathered evidence of the role VET can play in sustaining economic development, promoting active ageing, ensuring adequate skill supply, supporting corporate innovation capacity, growth and productivity, combating social exclusion and improving social cohesion. Synchronised and modern VET is not only an aim in itself but also a means of addressing the challenges that lie ahead.

Research indicates two key levers for policy action to modernise VET, institutional and professional:

(a) attractiveness is crucial if VET is to achieve the goals it is assigned in the Copenhagen

process; research on VET attractiveness emphasises the need for institutional action. The report suggests that some policies are of particular interest in this respect: diversification of VET offer; opening of routes for lower-ability students; modularisation; options to return to general education at secondary and tertiary level, making the choice for VET reversible; and the modernisation of VET system governance (quality assurance, qualification frameworks, partnerships). In particular, the trend towards developing qualifications frameworks in almost all European countries, although it is partly the result of the momentum generated by the EQF, shows the importance of institutional reforms in modernising VET. Qualifications frameworks are tools for governance, mobility and transparency. They have become fashionable instruments in the VET modernisation agenda because it is assumed they address several institutional reform domains simultaneously: diversifying the range of education and training options on offer while reducing the complexity of the qualifications system, facilitating coherence and increasing transparency; improving career development support and employment mobility by improving the fit between supply of qualifications, skills and competences and labour-market needs; promoting international and transnational mobility, cooperation and exchange by reciprocal recognition between providers, teachers and trainers and students/trainees and the development of a common language for qualifications; regulating and assuring quality of education and training provision; and promoting lifelong learning by securing the transfer of knowledge, competences and skills between different settings;

(b) teacher and trainer competences and effectiveness appear to be the cornerstone of European VET reforms. Their roles and functions are influenced by the VET modernisation agenda, which requires not only up-to-date teaching and training professionals,

but also education systems and governance experts who are aware of and understand the implications of new institutional arrangements (quality assurance, qualifications frameworks, recognition of competences and prior learning, etc.) as well as dialogue with industry and the local community for their practice. In modern VET systems teachers and trainers are pro-professional educators, key stakeholders in VET reform and ground agents of change. This synthesis report also confirms the importance of IAG for achieving the Lisbon goals. Improving IAG provision is essential to greater efficiency in career-related decision-making over the lifespan. As a consequence, better IAG provision might contribute critically to the economic and social objectives of the Lisbon process. Research suggests various ways to modernise IAG and maximise its impact, all dealing with professional practice: approach the guidance and counselling process holistically, to match better the expectations of contemporary users; develop the use of new technologies in IAG practice, and design strategies to include ICT in the practitioner toolbox; improve the counsellor curriculum by reinforcing the basics of guidance training and introducing or developing topics such as labour market analysis, familiarity with ICT, and awareness of issues such as accountability, productivity and multiculturalism.

The aim of this synthesis report has been to review research into the priorities for VET modernisation as defined in the Copenhagen process and subsequent communiqués by collecting evidence, reviewing the literature and gathering background contributions. It is striking that, although the context against which the VET agenda is set is well documented and researched, the links and consequences for VET modernisation are overall weakly addressed. At the same time, it appears that the priorities for improved cooperation in VET are almost entirely driven politically, by governments and social partners, without being informed systematically by sound research. In addition, research currently commissioned on VET priorities mostly reviews national, sectoral or sometimes local experience but is rarely based on theoretical or empirical analyses. There is also a lack of systematic policy evaluation and

impact research. Research and policy are not sufficiently connected, and tend to follow their own agendas.

From a policy point of view, this carries the risk that the expected benefits of VET modernisation will not be achieved. Moreover, the lack of research and sound evidence promotes trial and error approaches. Of course, policy sets its own pace and cannot wait for research to mature before any decision is taken but applied research and timely evaluations should be undertaken to inform policies as they develop and are implemented, confront them with theory and analyse their effectiveness and impact. In a European context, including comparative dimensions in such research and evaluations will maximise the potential for policy learning.

However, there have been critical assessments of education research, indicating that it is too fragmented, that it is too much governed by those who carry it out, and that its relevance for practice and policy-making is very modest. This also applies to VET research. In the context of a European process of agreeing common policies and tools for improved VET cooperation, our main research recommendation is to organise, at European level, sound applied and theoretical research, that relates to each of the priorities set for VET. Such research should focus on accompanying and informing the policy agenda and provide guidance and evidence-based findings for the actors at supranational and national levels. It should go beyond the mere review of policies and practices in the Member States to identify effectiveness factors – what works, under which conditions and for whom – based on sound theoretical and empirical analyses. Its aim should be to confront policy responses with theory and research to ensure adequate grounding of such policies.

In terms of specific research issues, based on the reviews and analyses carried out in the different chapters of this report, we have identified the following unresolved, or only partially addressed, questions:

- (a) research is needed to analyse more deeply the relationships and interdependencies between ageing, work and learning. What are the enablers of longer working lives? What is the specific contribution of learning? How to adapt learning, but also IAG, to an ever

- older public? What is the specific benefit for workplaces, enterprises, economies and societies of supporting training and learning of older adults? What is its contribution to work and life satisfaction at older age?
- (b) the specific economic and social advantages that employers can gain from training are still under-researched. Studies that investigate the benefits of employer-provided training should develop frameworks to obtain a comprehensive view of the returns on training for firms, including how additional productivity is shared, effects on profitability, on wage distribution and on market competition. Social benefits include improved stress management, motivation, commitment to and satisfaction with work, absenteeism and turnover reduction, and better safety and health in the workplace. The monetary value of such social benefits should be better estimated;
  - (c) the role of VET in promoting social inclusion and social cohesion is not firmly established yet. What are the specific socialisation functions VET fulfils? How can the integration of socially excluded groups be best achieved through VET? How to include groups that are not politically organised, as is usually the case for the socially excluded, in the governance and tailoring of VET? What can be the specific contribution of VET to general education equity and how does this translate over time in increased social cohesion? To what extent and how can education and VET be organised to mediate social inheritance?
  - (d) a methodology to approach the issue of attractiveness and parity of esteem in a consistent manner is needed, as the simultaneity of different national and institutional initiatives might be counterproductive. From a policy learning point of view, investigating why some of the recommendations of the Copenhagen process regarding increasing VET attractiveness have not been taken on board, as well as why some are (not) successful would require systematic evaluations of attractiveness policies;
  - (e) given the efforts and political will surrounding them, researching the impact of qualifications frameworks and whether they achieve the range of institutional benefits expected, promote lifelong learning and modernise qualifications systems, should be a priority for future research. A deeper analysis of the concepts of knowledge, skills and competences used in qualifications frameworks is also necessary. Finally, the consequence of the shift to learning outcomes in qualifications systems for curriculum development, education methods and didactics should be analysed as well. This is also important for assessing whether different forms of learning can be validated and valued as equivalent;
  - (f) practices of teaching and training in VET schools, training centres and in enterprises are not well documented, preventing the discourse on new learning needs and themes for VET teachers and trainers professional development facing the realities of daily work. In addition, very little is known on the specific impact of continuing VET reform on teachers and trainers. VET teaching initial and continuing professional development, in terms of participation rates, fields, themes and skill transmission modes, is poorly documented. First, good statistics and indicators to map the field are inexistent. Second, while some national studies exist, empirical research drawing on VET teacher and trainer work practices do not appear to be available at international level. Finally, as the teaching profession is confronted with rapid ageing of staff, adequate analyses of qualitative and quantitative skills shortages are needed to analyse future replacement demand for teachers and trainers;
  - (g) to improve the relevance, quality and effectiveness of IAG practice, administration and policies, research that analyses in what ways IAG contributes to education achievement, better timing of learning investments, and successful redeployment of economically inactive people is called for. More research is also needed on the fragmentation of IAG, to gain more insight on how to reconcile the need for IAG to specialise and be responsive and flexible to local needs with social and territorial equity as well as with coherent policy steering. Reliable and valid data are also needed on costs, supply, outcomes and users of IAG, as well as studies that evaluate the effectiveness and efficiency of IAG tools, techniques and processes.

## List of abbreviations

CPD	continuing professional development
CVET	continuing vocational education and training
CVT	continuing vocational training
CVTS	continuing vocational training survey
ECTS	European credit system (for higher education)
ECVET	European credit transfer system for vocational education and training
EQF	European qualifications framework
EU	European Union
EU-15	refers to the European Union from 1 January 1995 until 1 May 2004 (15 Member States)
EU-25	refers to the European Union from 1 May 2004 until 1 January 2007 (25 Member States)
EU-27	European Union (current 27 Member States)
GDP	gross domestic product
IAG	information, advice and guidance
ICT	information and communication technology
ISCED	international standard classification of education
IVET	initial vocational education and training
NEET	young people not in employment, education or training
NQF	national qualifications framework
OECD	Organisation for Economic Cooperation and Development
PISA	programme for international students assessment
R&D	research and development
VET	vocational education and training

## Country codes

EU-27				Others	
BE	Belgium	LU	Luxembourg	NO	Norway
BG	Bulgaria	HU	Hungary	IS	Iceland
CZ	Czech Republic	MT	Malta		
DK	Denmark	NL	Netherlands	AU	Australia
DE	Germany	AT	Austria	CA	Canada
EE	Estonia	PL	Poland	CH	Switzerland
IE	Ireland	PT	Portugal	CN	China
EL	Greece	RO	Romania	IN	India
ES	Spain	SI	Slovenia	JP	Japan
FR	France	SK	Slovakia	KR	South Korea
IT	Italy	FI	Finland	TR	Turkey
CY	Cyprus	SE	Sweden	RU	Russia
LV	Latvia	UK	United Kingdom	US	United States of America
LT	Lithuania				

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## **Modernising vocational education and training**

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# Modernising vocational education and training

## Fourth report on vocational and training research in Europe: synthesis report

Increasing Europe's competitiveness while preserving the European social model, coping with population ageing, reducing unemployment, tackling labour-market skill needs and shortages, and improving enterprises' economic performance all exert pressures on VET, pushing for its modernisation. The search for models of good governance in VET is an effective policy response to the increasing degree of uncertainty for economies and individuals that characterise our times. It allows VET to become more responsive to changing labour-market and individual needs and flexible enough to address skills imbalances and shortages.

European and national policy has set high expectations for VET modernisation. VET should be an attractive option for young people and adults to foster the acquisition of professional qualifications and their updating throughout working life. Professional competences and skills delivered through VET should be a model of excellence, while being transparent to relevant parties at individual, company and State levels.

This fourth report on VET research in Europe analyses the above pressures for VET modernisation. Research, however, also underlines the key role of VET itself in addressing these socioeconomic challenges. VET, therefore, not only reacts to change, but is also a driver of success and competitiveness for European economies and societies. Throughout this publication, Cedefop has gathered evidence of the role VET plays in sustaining economic development, promoting active ageing, ensuring adequate skill supply, supporting corporate innovation capacity, growth and productivity, combating social exclusion and improving social cohesion. Synchronised and modern VET is not only an aim but also a means of addressing the challenges that lie ahead.

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