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Abstract

A number of European initiatives aim to create a European educational space, including vocational training and higher education. Following the logic of difference, we ask whether, despite their different institutionalization, these two sectors in France and Germany react similarly to the Europe-wide Copenhagen and Bologna processes. We compare the relationship between vocational education and training (VET) and higher education (HE), contrasting a number of influential typologies. Analyzing the current situation, we ask whether these differences in postsecondary education and training systems continue to exist.

Zusammenfassung

Vor dem Hintergrund europäischer Initiativen, einen gemeinsamen Bildungsraum zu schaffen, der sowohl Berufsbildung als auch Hochschulbildung umfasst, werden Reaktionen in Frankreich und Deutschland auf diese Prozesse verglichen. Der Logik der Differenz folgend, wird gefragt, ob es trotz der stark unterschiedlichen Institutionalisierung der Hochschul- und Berufsbildung in beiden Ländern ähnliche Reaktionen auf die Kopenhagen- und Bolognaprozesse gibt. Vor dem Hintergrund verschiedener einflussreicher Typologien, die beide Länder verglichen haben, wird die aktuelle Situation beschrieben, um zu zeigen, ob die Unterschiede in den postsekundären Berufsbildungs- und Hochschulsysteme noch existieren.

Contents

1. Introduction

For decades, Germany and France have been contrasted as having quite different skill formation systems, resulting from differences in institutional structures, educational values, the degree of centralization of educational governance, and trajectories of industrialization. Numerous studies have compared these two countries, developing typologies of vocational education and training (VET) as well as higher education (HE) that summarize such differences. These typologies have especially served as useful heuristic devices. However, they may also pose barriers to recognize institutional changes, especially of the incremental type. Furthermore, the exogenous pressure posed by international agreements made by national education ministers to reform their education and training systems over the past decade lead us to ask whether these typologies continue to adequately reflect these national systems. To what extent have the key characteristics of skill formation systems in France and Germany changed, exemplified in the relationship between VET and HE?

Over the past decade, skill formation systems have not only been affected by endogenous national developments but also by the Europe-wide Bologna and Copenhagen processes, which rely on the open method of coordination to establish an enhanced European skill formation area. Both Bologna (for higher education) as well as Copenhagen (for vocational education and training) were intended to strengthen the EU's global competitiveness but also to be a force for social inclusion. Yet the efforts of decision-makers to achieve these goals imply the more or less transformative change of historically evolved national skill formation systems. Further, the goals stand in contrast to limited knowledge about the contemporary linkage between VET and HE. Each country's skill formation system is in turn embedded in a nationally specific education/economy nexus.

Thus, we compare the vocational and higher education systems in Germany and France as these countries respond both to the exogenous pressures of international diffusion of educational ideals, pan-European Bologna and Copenhagen declarations, and endogenous reform processes. In doing so, the paper addresses several classic typologies, which are briefly discussed here before the contemporary systems are presented in detail in the country chapters.

In *Mass Vocational Education and Training in Europe,* Wolf-Dietrich Greinert (1988, 2005) presented a typology of three "classical" training models: the liberal market economy model (Great Britain), the state-regulated bureaucratic model (France), and the dual-corporatist model (Germany). The French system was described as being strongly centralized as well as regulated, planned, controlled, and financed by the state. Private interests are rather unimportant—even more so since vocational education was mainly organized in full-time schools. The primacy of politics in this system was omnipresent and the didactic principle was mainly based on science and general academic education. In

this typology, Germany was characterized by extensive mediation and coordination among state employers and labor representatives in an autonomous system of vocational training. When speaking about vocational training in Germany usually one implicitly refers to the "dual system" in which students alternate between school-based and, crucially, firm-based training. Here, the core principle is that of the vocation (*Beruf*) (see, e.g., Deissinger 1998), which is to be developed in practice.

In studies of higher education, a range of comparisons exist, often contrasting four or more countries. Theories that suggest *one* global tertiary system are questionable, Dietrich Goldschmidt (1991) found, given the range of national higher education systems, including France and Germany, which he described as exhibiting "administrative centralism" versus "politicized legalism". In a classic comparison of higher education in France, Germany, Great Britain, and the United States, Joseph Ben-David ([1977] 1992) emphasized that while France offers continuity between general schooling and higher education based on one scale of educational excellence, Germany marks a strong boundary between general schooling and higher education viewed as sequential but different in goals. A traditional similarity between France and Germany has been the idea that the *raison d'être* of higher education is to select and educate an intellectual elite (Ben-David [1977] 1992: 73); however, these countries' higher education systems have been dissimilar in their structures, with the French more highly differentiated and with an explicit "elite" formation in the prestigious professional schools (*grandes écoles*).

Analyzing qualifications and labor markets, Marc Maurice, François Sellier and Jean-Jacques Silvestre in their 1986 book *The Social Foundations of Industrial Power: A Comparison of France and Germany* compared these countries' educational and training systems as well as work practices. The study examined the country specific patterns of skill formation and the respective transitions into the labor market, showing that the German system of vocational training was firmly established and rather autonomous from state intervention, whereas French vocational training was less well developed and more dependent on state involvement. The occupational position of German employees is not only dependent on their general educational attainment but also on the workers' specific apprenticeship training or learned vocation (*Beruf*). Consequently, the German workforce has been highly hierarchically stratified according to the system of vocational and professional credentials; with employment mobility occurring within this "qualificational space". In contrast, the French workforce has been stratified according to general education attainment and the amount of job experience. French employment mobility has been less directly affected by the attainment of specific educational and vocational credentials but rather the result of successive job experiences within firms. Transitions and mobility in France have thus been said to occur in the "organizational space" of the firm (see Maurice et al. 1986).

Since the aforementioned studies appeared, at least two decades have elapsed. Recent Europeanization processes demand that we revisit these models

to understand whether they still capture the essence of these systems. The purpose of this paper is to review recent literature and data, focusing on changes in the relationship between the differentially institutionalized organizational fields of general and vocational education as well as new organizational forms and the adjustment of educational pathways and participation rates. Guided by organizational and institutional analysis, this contribution relies on cross-national and historical analyses of vocational training (e.g., Koch 1998; Thelen 2004; Hillmert 2008), on change in universities (e.g., Krücken 2003, 2007; Witte 2006), and on comparative institutional analysis (see Baker and LeTendre 2005; Powell and Solga 2008, 2010). Thereby, we analyze the character of competition and cooperation between HE and VET, the hierarchy of certificates and organizational forms in the two organizational fields, as well as the differentiation of organizational forms [e.g., vocational academies (*Berufsakademien*) in Germany or university institutes of technology (*insituts universitaires de technologie*) in France] and newer vocational educational institutions, such as the "pre-vocational transition system" (*berufsvorbereitendes Übergangssystem*) in Germany (see Baethge et al. 2007).

How is the on-going, possibly even heightened, competition for participants between organizations dedicated to the transfer of general and vocational skills playing out in these two countries, France with a largely school-based vocational education and training system and a highly differentiated higher education system and Germany with school- and firm-based VET and a bifurcated HE system? Do developments over the past quarter century change the validity of classic typologies in which the German and French skill formation system have been compared? In the first section, we compare the relationship between VET and HE in Germany, charting pathways into and within VET and HE as well as transitions from VET/HE into the labor market, ending with a statement on the consequences of these institutional structures for social (in)equality. Then, in the next section, we present a similar overview for France. Lastly, we ask whether the typologies, briefly sketched above, still hold.

2. Shifting Tensions between Vocational and Higher Education in Germany

2.1 Pathways into and within Vocational and Higher Education

Here, we provide an overview on participation rates in vocational training and education, in higher education, and in newer hybrid organizational forms that straddle the boundary between VET and HE (see Figure 2.1 for current educational pathways).

German secondary schooling is both standardized and highly stratified (Allmendinger 1989). In fact, the secondary level of the educational system is divided into five separate organizational forms: Students are sorted very early (after grade 4 or 6) into one of the following school types (with further variants in the new federal states (*Bundesländer*)): (1) the lower secondary school (*Hauptschule*), (2) the intermediate track (*Realschule*), (3) the upper secondary school (*Gymnasium*), (4) a multi-track comprehensive school (*Gesamtschule*) offering a range of certificates, or (5) one of ten special school types (*Sonderschule).* The lower secondary school (*Hauptschule*) ends after grade 9 (10), and leads to a certificate called a *Hauptschulabschluss* (*erweiterter Hauptschulabschluss*[1]). The intermediate secondary school-leaving certificate (*Realschulabschluss*) is received after grade 10. The highest secondary school level (*gymnasiale Oberstufe*) ends after grade 12 or 13 and leads to the general higher education entry certificate (*Allgemeine Hochschulreife*) or the subject-specific higher education entry certificate (*Fachgebundene Hochschulreife*)[2] (Schneider 2008), which is required to access tertiary education. Furthermore, it is possible to receive the entry certificate for universities of applied science (*Fachhochschulreife*)[3] which only gives access to specific tertiary education mostly at universities of applied sciences ((*Fach)Hochschulen*)[4]. Generally speaking, all these tracks lead to specific positions in the labor market – blue collar, white collar, academic – and the permeability between the tracks is relatively low in education and employment (see, e.g., Leuze 2007).

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1 Students who graduate from the *Hauptschule* after grade 9 receive the general *Hauptschulabschluss*, while those who leave after grade 10 attain the *erweiterten Hauptschulabschluss*.

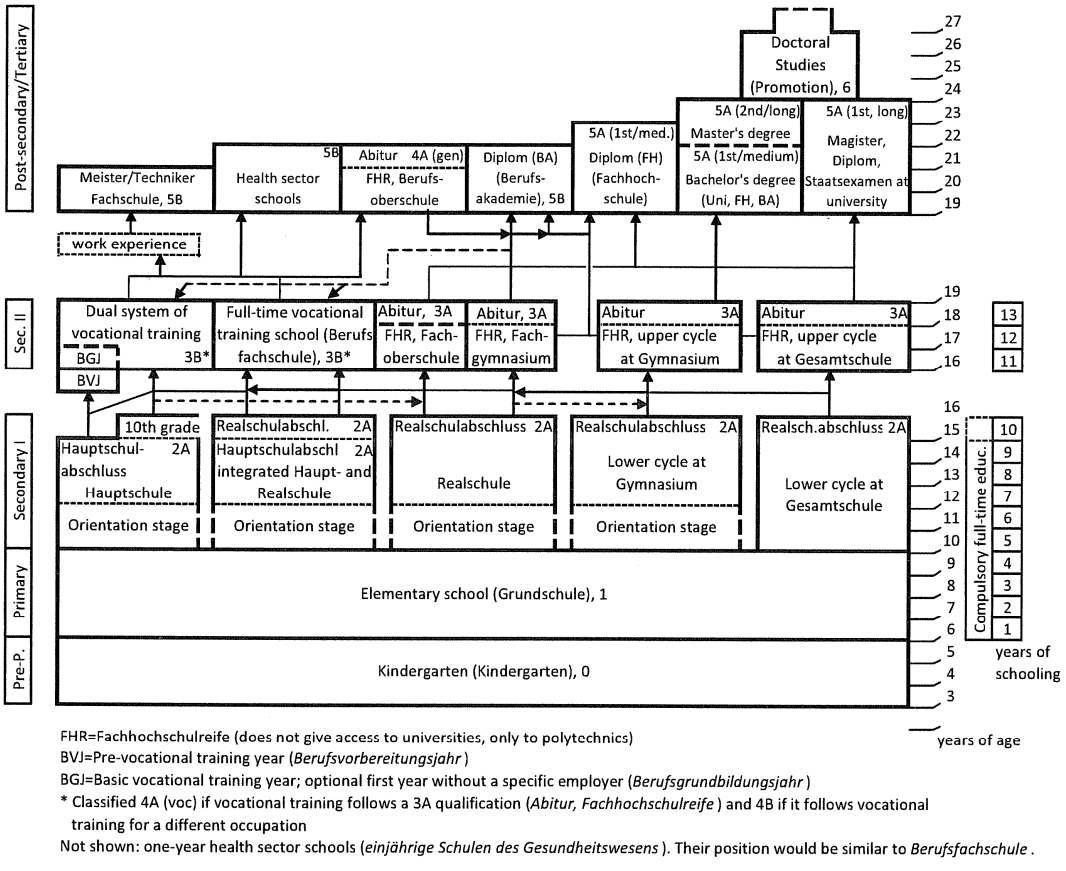
2 The *Allgemeine Hochschulreife* requires certification of knowledge of a second foreign language whereas the *fachgebundene Hochschulreife* does not. Thus, the latter certificate allows access only to certain subjects at universities, but to all subjects at universities of applied sciences.

3 The *Fachhochschulreife* is the second highest general school leaving certificate which can be received at various upper secondary schools. It consists of two parts, namely a school-based one lasting for about two years, and a vocational one with the duration of at least one year or alternatively a completed apprenticeship.

4 In the context of the Bologna reforms in Germany, many universities of applied sciences were renamed from *Fachhochschule* to *Hochschule*.

The vocational training system in Germany is similarly differentiated. This system is made up of three sectors: the pre-vocational training system (*Übergangssystem*), the school based vocational training system and the dual system proper (apprenticeship). Overall, the general education level of the students determines the entrance to a specific field of vocational training. Training in vocational schools leads mostly to occupations in the following sectors: health, social work, teaching, and media. Especially in the core of the training system, students with a general higher education entry certificate (*Allgemeine Hochschulreife*) and an intermediate track certificate (*Mittlerer Schulabschluss*) prevail whereas school leavers from the lower secondary school (*Hauptschule*) make up the smallest proportion of students. In crafts, agriculture and some domestic jobs, the lower secondary school graduates (*Hauptschulabsolventen*) make up the majority of the vocational training students. In industry, commerce, public service and free professions, the trainees are recruited primarily from the intermediate track (*Realschule*) and increasingly from the upper secondary schools (*Gymnasium*). In fact some vocational training opportunities, e.g. for bank clerks, now de facto require the general higher education entry certificate (*Allgemeine Hochschulreife*) to receive an apprenticeship contract (Autorengruppe Bildungsberichterstattung 2008).

Figure 2.1: The Educational System in Germany



FHR=Fachhochschulreife (does not give access to universities, only to polytechnics)
BVJ=Pre-vocational training year (*Berufsvorbereitungsjahr*)
BGJ=Basic vocational training year; optional first year without a specific employer (*Berufsgrundbildungsjahr*)
* Classified 4A (voc) if vocational training follows a 3A qualification (*Abitur, Fachhochschulreife*) and 4B if it follows vocational training for a different occupation
Not shown: one-year health sector schools (*einjährige Schulen des Gesundheitswesens*). Their position would be similar to *Berufsfachschule*.

Source: Schneider (2008: 79).

There are several pathways into higher education, requiring the following certificates for entry: the general higher education entry certificate (*Allgemeine Hochschulreife*), the subject-specific higher education entry certificate (*Fachgebundene Hochschulreife*) or the entry certificate for universities of applied science (*Fachhochschulreife*). Having obtained the *Allgemeine Hochschulreife*, school leavers are entitled to study at any institution of higher education. The *Fachgebundene Hochschulreife* and the *Fachhochschulreife*, on the other hand, allows entry only to universities of applied sciences (*Hochschulen*) or specified courses of study at universities (see Appendix for more details on the different organizational forms in the German educational system and their ISCED classification). In addition, the *Allgemeine Hochschulreife* can also be obtained after leaving secondary school. Here, we can differentiate between those who, for example, attend evening classes a few hours a week at an evening secondary school (*Abendgymnasium*), a college (*Kolleg*), or at an adult education center (*Volkshochschule*). However, workers who attain the *Allgemeine Hochschulreife* in this way account for only 2% of all admissions to universities and to universities of applied sciences (Heine, Schneider and Sommer 2008). In addition, about 2% of all students are able to begin their studies without a higher education entry certificate. Thus, by and large these alternative pathways remain marginal and upward permeability of the educational system is lacking. The other pathway into tertiary education after leaving general secondary schools is attendance in vocationally-specific secondary schools (*Fachoberschulen*) or other vocational schools (*Fachschulen*). About 14% of the students begin their studies having graduated from these organizations (Heine, Schneider and Sommer 2008). Altogether, entry into higher education via alternative pathways (*Zweiter Bildungsweg*) accounts for less than a fifth of all students beginning their tertiary-level studies.

While eligibility requirements for transfer from VET programs to HE vary by federal state (*Land*), the figures on students at tertiary level who have completed vocational training provides an indicator of permeability, as it measures actual mobility between VET and HE. Since reunification, the proportion of those students beginning their studies who hold an occupational training certificate has declined from just over a third to around a quarter: Over the past two decades, around one-half of this substantial minority of all students have completed vocational training *before*, one-half *after* they attained the necessary certificate to enter a tertiary course of study (Baethge et al. 2007). Thus, while less tertiary-level students have a training certificate than in previous years, a sizable minority experiences multiple phases of differing types of skill formation. In recognition of this fact, newer organizational forms cater directly to such interests.

Thus, next to the increase in internships completed by tertiary students as part of their general academic courses of study, official dual study programs that join in-firm vocational training with a course of study at a vocational academy (*Berufsakademie*), business college, university of applied sciences or university have been steadily increasing. Between April 2005 and April 2009 the of-

fered dual study programs rose about 31% from 545 to 712 programs (AusbildungPlus-Jahresbericht 2006, AusbildungPlus in Zahlen 2008/2009). The advantages of such programs seem to be manifest: while firms gain highly qualified and motivated younger workers, higher education organizations benefit from direct interaction with firms and can enhance their profile. When such arrangements are well-coordinated, they can optimally combine and alternate general academic education and in-firm praxis-based phases into a vocationally-oriented academic program. Students may gain much, as they receive training that enhances their labor market opportunities — similar to the advantages of the dual system at secondary level. Nevertheless graduates of vocational academies usually get lower paid jobs than university graduates.

In the International Standard Classification of Education (ISCED), vocational academies (*Berufsakademien*), certain vocational schools, and schools for healthcare professions (*Fachschulen im Gesundheitsbereich*), such as nursing, that offer two-year and three-year courses, are classified as post-secondary education (5B). All these organizations provide practically-focused but academically-based VET. However, only studying at the vocational academy can lead to a B.A.-level degree after three years of study in such fields as economics or social work or engineering.

Distributed among levels according to ISCED, the net entry rates into tertiary education in 2006 were: ISCED 5A: 35% (26% in 1995); ISCED 5B: 13% (15% in 1995) (OECD 2008: 68-69). For tertiary-type 5A this figure is low as compared to the OECD average of over 50% (DESTATIS 2008: 8). Correspondingly, in 2006, only 21% of a cohort were awarded a degree at the level of ISCED 5A (DESTATIS 2008: 41). Again the OECD average is much higher (37%), which, however, is partly due to the fact that in some other OECD countries more VET programs are classified as belonging to higher education (cf. DESTATIS 2008: 40).

Similarly, in Germany, we observe that the proportion of all pupils in the second phase of secondary schooling (ISCED 3) in general and technological education tracks (41%) was lower than the OECD mean (54%) in 2006, because of the relative size of the vocational training system (Statistisches Bundesamt 2008: 68). However, the variation between the federal states (*Länder*) (e.g., 30-50%) reflects differences in the structures of skill formation systems, disparities in the availability of apprenticeships and other vocational training opportunities as well as shifting preferences of youth as they proceed through educational pathways.

In 378 higher education institutions in 2006, a total of 1,986,106 students were enrolled. Students enter either a university, focused more towards a general curriculum and science, or a university of applied sciences (*Fachhochschule* or *Hochschule*), which emphasizes more applied fields and praxis-based training. Nearly 70% or 1,386,784 students study at 123 universities and equivalent institutions, 28.6% or 567,729 students are enrolled at 200 universities (*Hochschulen*) (including colleges of administration (*Verwaltungshochschulen*)), and

1.6% or 31,593 students at 55 colleges of art and music (KMK 2008: 182ff.). In addition, 28,525 students study at vocational academies (*Berufsakademien*) (KMK 2008: 182ff.). These colleges of advanced vocational studies, mentioned already above, combine an apprenticeship with postsecondary-level teaching that represent an example of a newer type of hybrid organizational form (cf. Powell and Solga 2008: 24, 30). However, this relatively new organizational form remains quantitatively marginal and limited to certain federal states (*Bundesländer*), such as Baden-Württemberg, where eight of these types of organizations have joined forces to create dual, praxis-oriented higher education for approximately 24,000 students in the *Duale Hochschule Baden-Württemberg* (University of Dual Studies).

2.2 Vocational Education and Training

The German dual-corporatist model's key is the combination of in-school and in-firm education and training (apprenticeships), which involves extensive mediation and coordination among the German national government, Germany's sixteen *Länder*, and employer and labor representatives in an autonomous system of vocational training (Greinert 2005). This extensive system of vocational training provides apprenticeship opportunities at upper secondary level. As we have seen above, vocational training plays a far more significant role in preparing young adults for the labor market than in other European countries where general academic education is primary (cf. e.g. Shavit and Müller 2000). Germany's skill formation institutions have been of historical importance as models for the development of both university education and vocational training internationally (see Powell 2009). The attraction for other countries to Germany's VET system is due largely to the fact that it has been providing a highly-skilled workforce, smooth transitions from school-to-work, and some insurance against the high youth unemployment rates that plague many other European countries (Deissinger 1994; Regini 1997). On the other hand, the dual system of vocational training no longer seems as successful as it once was at providing attractive training opportunities to the majority of a cohort leaving secondary schooling, at matching youth with firms offering stable career perspectives, or at regularly providing youth from lower social backgrounds or from ethnic minority groups with work and social mobility (Baethge et al. 2007). Indeed, regardless of fluctuations due to the business cycle and technological change, the demand for training opportunities has grown far beyond what firms have been willing to offer. Especially less-educated youth are in danger of not successfully garnering a spot within the dual system proper and thus will likely remain at the margins of labor markets in future (Solga 2005) as low-skilled persons' labor market vulnerability has increased not only in Germany, but in all Western countries over the past quarter century (Solga 2008).

Between compulsory schooling and employment in Germany, there are two transitions: into post-secondary education and training and from that stage into labor markets. However, a substitute — the pre-vocational training system (*Übergangssystem*) — has developed rapidly, such that each year about half a million young people do not enter into regular vocational training, but instead find themselves shunted off into a range of pre-vocational programs (*berufsvorbereitenden Maßnahmen*) (Konsortium Bildungsberichterstattung 2006). While these measures, similar to the dual system proper, aim to enhance youth's work aptitudes, occupational orientations, or vocational preparation as well as empowering them, this takes place outside the regular training system, often solely school-based and without the element of work experience within firms which is still expected by a majority of employers. As a result, the dual system has experienced an upgrading while leavers of lower secondary schools (*Hauptschulen*) are increasingly excluded like the leavers from special school types (*Sonderschulen*) have long been (Powell 2006). Traditionally, as has been described in the book by Maurice et al. (1986), the *Hauptschule* provides a low level of general education and was originally established to prepare students for craft and industrial occupations. However, an ever larger proportion of students (50,8% in 2006) from *Hauptschulen* do not find a place to train directly after leaving school but are forced to participate in the pre-vocational training system. For pupils without any general education certificate who enter the vocational education and training system, the situation is even worse, as about 80% of these school-leavers (mainly from *Hauptschulen* and *Sonderschulen*) end up in the pre-vocational training system (Autorengruppe Bildungsberichterstattung 2008: 158).

World polity researchers have argued that the appeal of vocational education rose and fell over the twentieth century due to the changing importance of specialized workers because of the shift from industrial production to services and the simultaneous rise of standardized educational provision for future citizens in egalitarian societies (Benavot 1983). But Germany, which largely clings to its traditions in education and training, provides via its *Sonderweg* a difficult case for such global trend analyses that argue from a bird's-eye view. Thus the transition to the egalitarian citizenship model (that favors general academic education) so influential elsewhere is slowed. This can be explained primarily with the differentiated German school system that predetermines educational pathways and also with the adherence to the organizing principles within the training system in which the conveying of occupational competences instead of more general education is the dominant goal.

As Deissinger (1998) shows the vocational principle (*Berufsprinzip*) is still the most important and an extremely stable parameter on which the German VET system is built. The proposal to extend schooling periods in order to increase the share of general education, like it is possible in Switzerland, is for example often rejected by the German economy. On the one hand firms fear to lose expensive human labor and on the other hand they believe that vocational sociali-

zation is best secured in firm based training (see BMBF 2009; Kuratorium der Deutschen Wirtschaft für Berufsbildung 2004). Indeed, the tremendous costs of such a system as that of pre-vocational training might also indicate how highly institutionalized the idea of apprenticeships and the dual system is in Germany. And even the German full-time vocational training schools (*Berufsfachschule*), which do not belong to the dual system proper, have integrated extended apprenticeship periods into the curriculum, as the occupational principle diffuses throughout skill formation systems' elaborate organizational fields.

Significantly, over the past two hundred years, divided and parallel systems of general, academic education and vocational education and training have grown, over time solidifying the institutional and organizational distinction between general academic and vocational preparation, what (Baethge 2006) has termed the "German educational schism" (*deutsches Bildungsschisma*) (see Table 2.1).

Table 2.1: Institutional Dimensions of General Education and VET, Germany

Institutional Dimension	**General**	**VET (dual system)**
Cultural-cognitive		
Dominant goals, Ideals	Educated personality, individual self-control, autonomy, occupational (disciplinary) identity	Vocational competence, agency, vocational identity (*Beruflichkeit*)
Orientation in the definition of learning goals, Curricula	Canon of representative knowledge, science	Labor market, economic demand for qualified workers
Normative		
Status of learners	Pupils, students	Trainees/apprentices in an employed status
Organization of learning	Theoretical education in independent organizations	Praxis-based training (connection between work and learning)
Personnel	Professionalized, civil servants	Non- or semi-professional, private work contracts
Regulative		
Governance, Supervision, Quality control	*Länder* (democratic control)	Corporatist self-administration on the basis of federal regulations
Finance	Public (*Länder*, local)	Mainly private, vocational schools financed publically

Source: Adapted from Baethge et al. (2007: 17); Translation JP.

Here, Baethge compares a variety of key institutional dimensions that undergird the schism between general education and VET. Whereas general education has as its dominant goal or ideal the development of individual personality, self-control, and autonomy, that of VET is to develop in individuals their occupational competence and agency, such that they can carry out specific tasks. Thus, the orientation when defining learning goals and elaborating curricula is not a scientific approach guided by a canon of representative knowledge for general education, but rather a view toward the labor market and its demand for qualified workers in the case of VET.

In terms of the regulatory pillar, the sixteen German federal States (*Bundesländer*) not only finance but also exert democratic control as they govern and supervise the content and quality of general education. By contrast, federal regulations guide the corporatist self-administration of VET. Whereas in VET individuals are quasi-employees, in general education they are pupils or students. The organization of learning is theoretical education in schools on the one hand and praxis-based training that ideally melds work and learning, on the other. In terms of personnel, professionalized civil servants compare to non- or semi-professionals employed under private contracts.

2.3 Higher Education

The German higher education system consists of public and private state-recognized institutions of higher education (ISCED 5A), which are categorized as follows:

1. Universities (*Universitäten*) and equivalent higher education institutions (technical universities, education colleges) (*Technische Hochschulen/Technische Universitäten, Pädagogische Hochschulen*);
2. private graduate or professional schools (e.g., Hertie School of Governance, Bucerius School of Law);
3. colleges of art and music (*Kunsthochschulen* and *Musikhochschulen*); and
4. universities of applied sciences (*Fach)Hochschulen*) and universities for public administration (*Verwaltungshochschulen*).

Universities are the classical type of higher education institution. At present there are 109 universities operating in Germany whereas most of them are so-called full universities, which offer the whole range of academic subjects. These generally include law, cultural studies, arts and humanities, natural sciences, and economics/business administration, teacher training and, with some exceptions, medicine. Compared with universities of applied sciences, universities traditionally attach great importance to basic research. All types of universities have in common the traditional right to award the doctorate and the post-doctoral lecturing qualification (*Habilitation*). Thus the focus is on academic and scientific research and teaching as well as on the training of the next generation of academics. Admission requirements generally include the general higher

education entrance qualification (*Abitur*) whereas in some cases admission is restricted to the *Numerus clausus* or universities select their students themselves.

Colleges of art and music offer courses of studies in the area of film, television and media, in the performing visual and design arts as well as in various music subjects. The number of study places in these colleges is strictly limited. Only applicants who pass an entrance test to prove their talent have the chance of being accepted. In contrast to general admission requirements to higher education, particularly talented applicants can be admitted to studies, even if they do not hold a higher education entrance qualification.

Universities of applied sciences (*Fach)Hochschulen* were introduced in 1970/71 as a new type of institution in the system of higher education in Germany. They offer application-oriented study courses mainly in economics, engineering, social work, public and legal administration and health and usually offer integrated semesters of practical training. In contrast to the more academic orientation of university courses of studies (*Fach)Hochschulen* are characterized by their professional orientation including professors, who, in addition to their academic qualifications, have gained professional experience outside the field of higher education.

The German higher education has been depicted as a system of "political legalism" in which legal procedures play a dominant role in the resolution of conflicts (Goldschmidt 1991: 5-6). Clark characterizes the German higher education governance-regime as "a combination of political regulation by the state[5] and professional self-control by 'academic oligarchies'" (Clark 1983: 140). Four prominent "traditional" features of HE in Germany discussed by Teichler (2002: 349-350) are the following: (1) universities are strongly orientated towards science; (2) universities are of more or less the same quality; (3) programs usually lead to degrees that are oriented towards a vocation (cf. e.g. Brauns et al. 2002: 42); and (4) the state plays a significant role in the steering of higher education. The "German model" of higher education gained prominence based on both the Humboldtian ideal of a community of professors and students and on the general principle of "education as a public good" (as opposed to "education as a commodity" and the principle of competition). With regard to evolutionary dynamics, the German HE system is typically characterized as conservative, slowly moving, and inclined towards incremental rather than radical changes (cf. Teichler 2005). Considering this tendency towards inertia, the recent rapid shifts in academic programs, such as the widespread diffusion of a dual degree structure (B.A./M.A.) throughout the country within a very few years, represent an important case of study for institutional change—and to challenge theoretical expectations of path dependence.

Over the past few years Germany's higher education system has seen a number of liberalizing reforms, which raises interesting questions about the future stability of its traditional mode of coordination, or regulation mode (cf.

5 In this case especially the German *Länder* are part of the regulation.

Graf 2008: 15). Examples for current institutional reforms are, next to the formalization of the dual degree structure, the introduction of tuition fees of up to 500 Euros (in currently 6 federal states (*Bundesländer*) albeit with differences in concrete regulations), performance-based bonus pay for professors, increased institutional autonomy for universities and university presidents, and the "Excellence Initiative" (cf. Bultmann 2008: 10-11; Spiewak and Wiarda 2008: 62). As the higher education sector is deregulated and "New Public Management" strategies gain a foothold (cf. Krücken 2007: 192), some commentators already claim the switch to a "neo-liberal" market model (albeit a "German" one), in which universities acquire the status of *organizational actors* as they reduce the power of the academic oligarchy (Krücken and Meier 2006). However, it is still up to debate how far this new "marketization" can be directly related to the Europeanization of higher education (cf. e.g. Nullmeier 2000).

The implementation of the Bologna process in Germany has been described as a large experimental "field trial", with unknown consequences and risks (Dobischat et al. 2008: 97). According to Pritchard (2006: 112), "The dialectic among global, national, and local forces will eventually hybridize German higher education into its own distinctive, new model". The introduction of the dual degree structure is the innovation most visibly linked to the European education and training reforms associated with "Bologna". In Germany, the legal principles for Bachelors (B.A.) and Masters (M.A.) as the standard degree structure were created in 2002 (KMK 2007: 8). Accordingly, over the past few years, traditional degrees like *Magister*, *Diplom*, and *Staatsexamen* were gradually substituted. However, due to the ongoing transition between types of courses of study, today we find the parallel existence of the 'old' and the 'new' degree systems (e.g. Witte 2006: 196); at the same time, students have limited possibilities to choose between them.

This parallel existence reduces the transparency important for entrants into the system and those who attempt to judge the value of differing courses of study and certificates. Further, operating this parallel system is a substantial *double burden*, especially as the growing demands on universities are not covered by a proportional increase in universities' financial resources (cf. Himmelrath and Mersch 2007: 19); in fact, Germany's universities have suffered a considerable reduction in overall resources over the past few decades. In addition, faculty and staff and students must adjust their teaching and learning programs and styles. Often in these new courses of study, "competences and educational objectives are defined with a view to the demands of labor markets" (KMK 2007: 11). Consequently, the new Bachelor programs seem to be more vocationally oriented (cf. Krücken 2007: 192; Reuter 2003: 20-24). Thus, there are both elements of academic education being added to previously mainly practice-oriented training programs and elements of vocationally-specific training being merged into previously purely academic general programs. Precisely such changes, leading to an altered relationship between such organizational forms

as universities and universities of applied science, need to be followed closely in the future (Powell and Solga 2008, 2010).

For years, one of the most important and consensual goals of education and training policy has been to make skill formation systems more flexible, more transparent, and more permeable — both within VET and at the nexus between VET and HE — as part of lifelong learning initiatives of the European Union (BMBF 2008: 198). Among the developments which seem to lead to more permeability are qualifications frameworks and credit transfer systems, which both promise to increase transparency between the two sectors. However, without common understanding of the concepts of "competence" or "credits", neither national or European qualifications frameworks are unlikely to succeed, since learning outcomes will still need to be assessed individually, which is difficult and time consuming (Freitag 2007). Nevertheless, such attempts at rationally defining learning inputs and outcomes, where successful, promise to assist employers evaluating job-seekers and will support individuals entering domestic (and foreign) labor markets.

2.4 Transitions from Vocational/Higher Education into the Labor Market

Here, we discuss the current state of transitions from both the VET and HE systems into the labor market, paying particular attention to recent changes in the tertiary-level courses of study and certificates (B.A./M.A.). Characterized by its highly standardized and stratified educational system (Allmendinger 1989; Müller and Shavit 1998, 2000), the German apprenticeship model has retained its prestige due to relatively low youth unemployment rates. However, youth unemployment has been rising and unemployment rates for young people have grown disproportionately in comparison with other age groups. Thus, the regularity of smooth transitions has become challenged over the past few years. Post-training unemployment search phases directly following the end of vocational training vary by occupation. In recent years, the highest rates of take-up in the training firm in the old federal states were to be found in traditional industrial branches as well as in the credit and insurance industry, at over 80%, and the lowest rates in the service industry (Autorengruppe Bildungsberichterstattung 2008: 180). Such differences in the transition process not only mirror the chances of youth in certain occupations, but they also signal matching problems between training offers and the demand for qualifications in the labor market. A month after completed training, the disparities in employment are so large that it can correctly be characterized as polarization: from over three-quarters of employees in the banking and insurance industry to a third of painters and woodworkers. Overall, the duration of the transition phases duration has extended since 2000, such that by 2005, more than a third of successful leavers of apprenticeship training do not immediately transition into employment.

As shown in the 2008 Education Report, in the first twelve months after completing training, 64.4% of youth have entered full-time or part-time work, 4.6% are inadequately employed, 9.3% are receiving some transfer payments (such as unemployment benefits), and data is missing for a further 21.7% (Autorengruppe Bildungsberichterstattung 2008: Abb. H5.2-3).

For higher education, clearly the demand for graduates has continuously increased—and will likely continue to rise in future. In the mid- to long-term, the labor market prospects for HE graduates are very good overall, indicated by their qualification-specific unemployment rate of under 5% since 1975 (Autorengruppe Bildungsberichterstattung 2008: I2). After 1993, the unemployment rates of persons with and without a higher education degree have diverged: whereas the general rate in 2005 was 11.8%, for HE graduates it was only 4.1%. However, since the mid-1980s even those young people holding a HE degree need increasingly longer to find a first job. In addition, they face higher unemployment risks after having entered employment. That is, both insecurity and instability have increased. While we can observe a trend towards the 'academization' of the educational and employment systems, the transition of HE graduates into a first job has become more complex and time-consuming (Teichler 2002: 366).

With regard to the new B.A. and M.A. degrees, their success depends on how they are accepted on the labor market, but also how graduates fare in their jobs (Brauns, Müller and Steinmann 2002: 59). In 2004, "… the legal provision for changed relationship between HE and the labor market was largely in place, [while] mentalities and practices still needed to adjust …" (Witte 2006: 204). Indeed, human resources managers of leading German enterprises saw it necessary to start a campaign called "Bachelor Welcome!", stating their willingness to take on B.A. and M.A. graduates (BDA 2004; see also BDI 2005). Nevertheless, problems still arise given the lack of familiarity of employers with regard to the new Bachelor's degrees. This goes hand in hand with uncertainties about the competencies of Bachelor's graduates (Briedis 2005: 48; cf. Sperling 2008: 20). Thus, it is still an open question how smooth transitions of B.A. graduates into the labor market are going to be (Alesi et al. 2005).

Taking the cohort of graduates who completed their final exams in 2002/2003 as an example, 80% of the B.A. graduates from universities embark on further studies (for B.A. graduates from universities of applied science (*Fach)Hochschulen* the figure is 60%) (KMK 2007: 11). It is not yet established whether this high proportion (as compared to Anglophone countries) is due to uncertainties about the value of the new Bachelor degrees or due to educational interests and ambition per se. Briedis (2005: 48) finds that most Bachelor graduates had in mind to continue with postgraduate studies already when they began their undergraduate course of study. At the same time, skepticism of students towards the new degrees relates to lacking transparency in regard to the acceptance of these degrees on the labor market (Dobischat et al. 2008: 97). In many cases even

HE lecturers do not yet "trust" the new undergraduate programs and advise students to stay on for postgraduate studies (Reichert and Tauch 2005).

On the other hand, the majority of those B.A. students who do not continue with further studies enter jobs that are considered as traditional jobs for graduates from higher education (see also Briedis 2005; KMK 2007: 11). Yet, a difference still arises as, overall, "climbing the career ladder" in the first job is subject to a longer trial period for Bachelor graduates as compared to *Diplom* graduates (Konegen-Grenier 2004). Thereby, the career chances that employers grant to B.A. graduates also depend on the particular sector of the economy. For example, chances are relatively equal in logistics/transport, agriculture and forestry/environment, research/development, and industry, but lower in the fields of non-governmental organizations (NGOs)/associations, marketing/ trade, and health care (Sperling 2008: 19-20). Here, on-going research must monitor the opportunities given and taken as B.A. and M.A. graduates become ubiquitous.

2.5 Social (In)Equality

What do recent shifts in these institutional arrangements mean for participation by differing social groups; to which extend has the goal of universal access to education — and training or "lifelong learning" — been achieved? Currently, contrary media representations surrounding educational reforms make a range of claims that need to be tested by empirical social science research that demonstrates how access to educational pathways, the quality of general education and skill formation, and attained certificates have and are changing. Such investigations can assist societies to monitor the extent to which institutional changes are helping them to achieve their widely-held goals, from universal literacy and economic competitiveness to social security and solidarity. While there are indications about the implications of the changes in tertiary education since the Bologna declaration, those relating to the Copenhagen process are less clear; thus, mainly the former are discussed here.

It can be argued that social background has a selective impact until students reach the general higher education entrance qualification (*Abitur)*, but less so afterwards (Mare 1980; Teichler 2002: 367). Given the very early branching point into different secondary school types that determine eligibility for post-secondary studies, demands for equal opportunities at the later stages are somewhat moot. Correspondingly, in the German context, inequalities are rather observed in relation to the choice of vocational training versus university education (cf. Duru-Bellat et al. 2008: 365). However, the new consecutive degree structure could have a social cost, as students from lower socioeconomic status backgrounds may refrain from post-graduate studies (Reuter 2003: 23), the effect being reinforced by the introduction of tuition fees in some states (Heine et al. 2008).

To date, the structural changes due to the Bologna reforms have not yet increased the disposition of those from lower social classes to study. Moreover, the reforms have not increased the proportion of those who are eligible to embark on higher education studies (Kretschmann 2008: 59). In fact, political goals associated with the Bologna reforms regarding the age of graduates, fewer dropouts, reduction of disciplinary boundaries, and increase of mobility of students (cf. e.g. KMK 2003), have not yet been achieved, and are actually called in question considering recent developments (Dobischat et al. 2008: 97). For example, while projections show a rapidly growing demand for higher education, the supply of study places is under pressure due to the transition to the new degree structure, which requires a higher staff capacity (Beverwijk et al. 2007: 28f.; Huisman and Kaulisch 2007: 33). Another issue is that the creation of a European Higher Education and Research Area facilitates heightened competition between universities and, as such, will most likely be to the advantage of the natural and technical sciences as compared to the humanities, and, thus, may also reinforce already existing gender imbalances (Kupfer 2004: 155ff., 274f.).

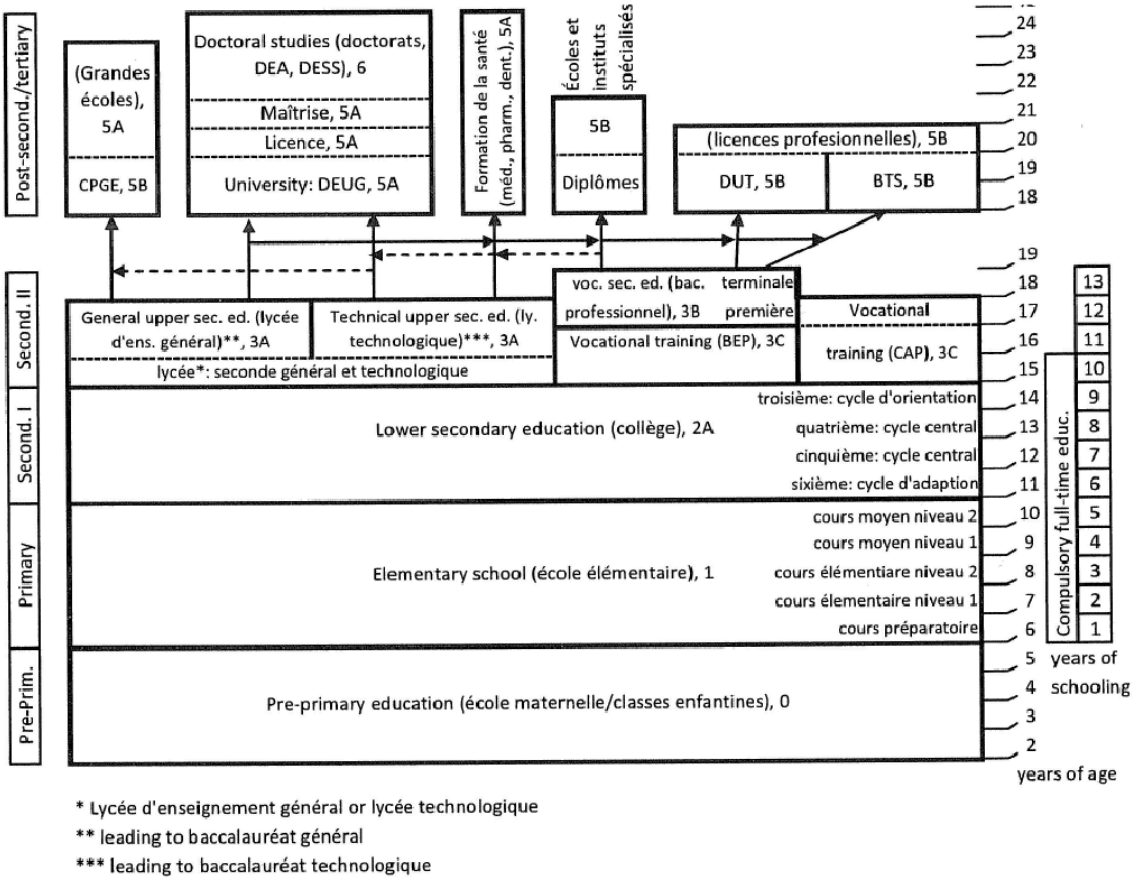
At this stage, findings with regard to the link between the Bologna and Copenhagen reforms and rising social (in)equality, new transition patterns into employment, or growing tensions between universities and universities of applied science ((*Fach)Hochschulen*) and other skill formation organizational forms are still preliminary; further research is needed.

3. Shifting Tensions between Vocational and Higher Education in France

3.1 Pathways into and within Vocational and Higher Education

In this part we draw an overall picture of French vocational and general education systems and chart further possible pathways into higher education. Since the late 1950s, France has witnessed a continuous debate about mass education and how best to provide equal schooling to all children regardless of their social origins while opening to them the doors to a form of secondary education that had been designed for the children of the bourgeoisie. During the first half of the twentieth century, most children from working class or rural background attended different types of schools than children from the bourgeoisie and left school at the end of the "upper primary" (age 14). Until the late 1950s, access to the first year of secondary education ("*l'entrée en 6ème*") remained very selective (Girard 1970).

Figure 3.1: The Educational System in France



* Lycée d'enseignement général or lycée technologique
** leading to baccalauréat général
*** leading to baccalauréat technologique

Source: Kieffer (2008).

In 1959, the compulsory schooling age was raised from 14 to 16 by the Berthoin Reform, which also merged all lower secondary classes in a single system, effective as of 1967. After the implementation of several reforms in the 1960s and 1970s, secondary education in France has been in two stages: the lower secondary stage from age 11 to 15 and the upper secondary one from age 15 to 18 or 19 (see Kieffer 2008). All French students attend a comprehensive and unified lower secondary school, the *college*, together. Only at the end of the *college* are French students sorted into different pathways: general and technological on the one hand and vocational on the other. This selection process occurs in two steps. At the end of the "3ème" at the theoretical age of 15, students may be geared toward the vocational stream that leads to the vocational training certificates CAP (*certificat d'aptitude professionnelle*) and the BEP (*brevet d'études professionnelles*) and finally, since 1985, to a vocational baccalaureate, the *baccalauréat professionnel*.

The students oriented towards the "general and technological" path follow a one-year partially common program ("*seconde indifférenciée*"); with some subjects specific to the students' further orientation. Then, at the end of this form, a further selection process occurs, dividing students between the technological and the general (academic) streams, which, after two further years, lead to the corresponding baccalaureates.

The introduction of the vocational baccalaureate can be viewed as the result of converging interests between (a) representatives of the French Ministry of Education and representatives of vocational teachers unions who saw it as a way to improve the prestige of secondary vocational education and (b) representatives of corporate management who were seeking higher skilled workers to work on the line as factory employees. This policy made the baccalaureate the educational target in France (Kieffer 2008). The increase in the proportion of individuals who attain a vocational or technological baccalaureate is thus partly responsible for the increase in the total number of baccalaureate holders (see Table 3.1 for distribution of baccalaureate certificates).

Table 3.1: Percentage of cohort attaining three types of baccalaureate certificates, 1970–2005

	Academic bac	**Technological bac**	**Vocational bac**	**Total**
1970	16.7	3.4	–	20.1
1985	19.8	9.6	–	29.4
1990	27.9	12.8	2.8	43.5
1995	37.2	17.6	7.9	62.7
2000	32.9	18.5	11.4	62.8
2005	33.7	17.3	11.5	62.5

Note: Percentages of a cohort receiving each particular type of baccalaureate in the year given

Source: Ministère de l'Education Nationale, *Repère et références statistiques* (2006).

An increasing proportion of each cohort attains some form of baccalaureate degree. Furthermore, this level has become less socially selective. Yet whereas all types of baccalaureate officially grant access to higher education, the *kind* of baccalaureate has become increasingly marked by social differences. The general (academic) baccalaureate is the most prestigious, especially with the scientific track (mathematics and physics), followed by the technological and finally the vocational one[6] (Kieffer 2008). This hierarchy is emphasized because in contrast to the general and technological baccalaureates, the vocational baccalaureate was not conceived as a stepping-stone into tertiary education.

In terms of further pathways into higher education, the chances for students holding a vocational baccalaureate to continue on to higher education are much slimmer than among other bac holders. Only 22% continue either in higher level technicians program (*Sections de techniciens supérieurs* – STS) classes (15,6%) or in the first year of university (5%) and a very small group into tertiary technological institutes (*Instituts universitaires de technologie* – IUT) (0,7%) (see Table 3.2). At university, their chances to succeed are slim and they join the ranks of other university dropouts. Moreover, they generally aim toward a restricted number of tracks that serve as a strongly negative marker (sports and literature, languages). The recent decision to transform the four-year vocational baccalaureate program into a three-year course will likely exacerbate this problem of access to tertiary education since more general education will be missing in the curriculum.

The higher education system in France is strongly differentiated but can be divided into three main tracks: the universities, the elite formation at the prestigious professional schools (*grandes écoles*) with its preparatory classes (*classes préparatoires aux grandes écoles* – CPGE) and the technological education, which trains technicians and some engineers. Regarding the latter type, students can either obtain the higher technician certificate (*Brevet de technicien supérieur* – BTS) at higher level technician training programs (*Sections de techniciens supérieurs* – STS), the tertiary technological certificate (*Diplôme universitaire de technologie* – DUT) at the tertiary technological institutes (*Instituts universitaires de technologie* – IUT). Vocational bachelors (the *licence professionnelle*) are awarded by technological institutes (IUT) or by universities.

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6 Students preparing for a technological bac spend the second form (*la seconde*) together with the students taking the general bac. Only afterwards may students of the technological bac chose one of six technological categories: management sciences and technology (sciences et technologies de la gestion – STG); industrial sciences and technology (Sciences et technologies industrielles – STI); laboratory sciences and technology (Sciences et technologies du laboratoire – STL); health and social sciences and technology (Sciences et technologies de la santé et du social – ST2S); musical and dance technique (techniques de la musique et de la danse – TMD); hotel trade. In contrast, students prepare for the vocational baccalaureate after having obtained their first vocational qualification (CAP or BEP).

In the academic year 2007/08, most of the more than 2.2 million students in higher education in France were enrolled at universities (59%), only 3% in preparatory classes to the prestigious professional schools *(grandes écoles)*, 15% in technological higher education (STS and IUT). The final share was enrolled in one of the several other public and private institutions, including the "Grandes écoles" (Ministère de l'Enseignement supérieur et de la Recherche 2007).

Principally, all holders of a baccalaureate can enter higher education. However, access to higher education studies is distinguished by the division into those programs where access is granted without a selection procedure (most university programs) and those studies which are accessed via selection procedures (CPGE, STS and IUT and *écoles specialisées*). Here the type of baccalaureate held and the grades achieved are the most determinant factors. Finally, studies at prestigious professional schools (*grandes écoles*), can only be accessed via a competitive examination for which students prepare at the preparatory classes (CPGEs) for two or three years.

The competitive advantage of those students who come from a general or technological baccalaureate background over vocational baccalaureate recipients is undeniable and this can be clearly seen in the distribution of baccalaureate holders among tertiary education institutions (Table 3.2).

Table 3.2: Distribution of baccalaureate holders among tertiary education institutions, 2007

	Academic Bac			**Technological Bac**			**Vocational Bac**
	Literary	Econ. & social	Scientific	STI*	STG**	Other	
Universities (IUT included) (%)	70.5	64.3	66.2	23.2	29.2	19.7	5.7
STS (%)	10.1	10.5	6.2	56.3	42.5	28.1	15.6
CPGE (%)	7.7	6.0	20	2.3	1.1	0.5	0.0
Other types (%)	9.2	11.9	11.8	2.8	4.4	9.9	0.6
Newly enrolled in HE N=	48,583	83,765	141,536	28,942	52,978	20,310	22,949
2007 Bac holders N=	49,843	90,354	147,461	34,197	68,519	34,889	104,975
Continuation rates (%)	97	93	96	85	77	58	22

* STI is the technological baccalaureate category industrial sciences and technology whereas ** STG refers to the category of management sciences and technology.
Note: Continuation rates = number of newly enrolled students in HE/number of Bac holders for a given year. Due to double enrollments in HE, this information is approximate.

Source: Ministère de l'Education Nationale de France, *Repères et références statistiques* (2008: 99).

Entry into higher education is conditional on passing the baccalaureate. However, we should mention two minor exceptions: the (*Diplôme d'Accès aux Etudes Universitaires* – DAEU), which may open doors to the first year at university[7] and the "Capacité en droit" that allows successful candidates to study law in universities.

A third device making it possible to skip certain certification barriers was set up as a part of continuing education and lifelong learning. It consists in the certification of experience-based competencies (*Validation des Acquits de l'Expérience* – VAE), which is the French acronym for the "validation of learning from experience". This scheme, created in 2002, is an attempt to reduce the number of uncertified workers by delivering certificates based upon their vocational experience: a part of or the complete certification can be earned by having past occupational experiences validated as a source of competence. This involves a reassessment of the value of labor and of the role of formal schooling. Access to VAE is a right for everyone with at least three years of work experience and can be used to receive all types of nationally recognized qualifications. In 2006 about 8000 persons strove for a baccalaureate via VAE, which corresponds to 17,8% of all targeted qualifications via VAE (Table 3.3). Generally, however, students accessing higher education via those extra pathways represent only a tiny share of the overall student population.

Table 3.3: Targeted certificates of persons in VAE in 2006

Targeted qualifications	CAP – BEP	Bac	Bac + 2 (DUT, BTS, …)	License, maîtrise, …	DEA, DESS, master, grandes écoles,…	Total (%)	Total
%	45.9	17.8	27.1	6.0	3.1	100.0	45,219

Source: Institut national de la statistique et des études économiques (Insee), http://www.insee.fr/fr/themes/detail.asp?ref_id=form-emploi&reg_id=99#p3, Table 20

3.2 Vocational Education and Training

In France, technical and vocational education has been formally organized at national level only at the beginning of the 1880s (see Léon 1961; Tanguy 1988). The vocational educational certificate CAP (*Certificat d'aptitude professionnelle*) has held a major historical role both in education and in collective agreements as a marker of skilled jobs: the line between skilled and unskilled jobs rests

7 Students mostly enter in the humanities and social sciences; it is very unusual for students with a DAEU to access a science curriculum. Altogether, only about 5,000 students per year may enter university through DAEU (Ministère de l'Enseignement supérieure et de la Recherche 2006, 2009)

upon the CAP. Those jobs in which the possession of this vocational certificate is required are considered as skilled in the wage grid and in bargaining agreements. The CAP has repeatedly been criticized for its fragmentation (over 200 sections with numerous sub-programs) and its (relative) devaluation due to general education expansion as well as the emergence of new vocational certifications. Such developments have generated a wide public debate; should the CAP be terminated? Some advocates think it should be abolished, but as first level vocational certification it still has its defenders (Maillard 2007).

CAP can be prepared through two different learning modes—schooling or apprenticeship—where the proportions of time granted to general and vocationally oriented topics vary. In 2005, the number of students enrolled in a CAP program was 96,603 through the schooling stream and 177,000 through apprenticeship (Defresne 2007). Each learning mode corresponds to different training institutions. The school-based vocational schools (*lycées d'enseignement professionnel*) are mostly operated under the supervision of the national Ministry of Education (rare exceptions: CAP in agriculture, health and social affairs, and in youth and sports departments). In contrast, Apprentice Training Centres (CFA), are mostly run by Chambers of Industry, Commerce and Craft and under the supervision of the relevant department, but with strong involvement of corporate representatives and local actors. Here, students work part time as apprentices in a firm to which they are bound by a labor contract. The general education aspects of this program are also very demanding and the CFAs are in charge of this school-based portion of training.

To date, the preparation for CAP lasts two years after the 3rd form of general secondary education (*la troisième*[8]). A limited fraction of students (7%) aged 16 and over may attend the CAP training once they have finished their 4th form (*le quatrième*), after they have completed special preparation. Access to such classes preparing for CAP is open; this low selectivity attracts mainly students of less privileged social background and/or students with previous low schooling achievement. However, the CAP certification remains highly selective since a high proportion of students do not pass their final exams as a result of the heightened demands with regard to general as well as vocational skills. Consequently, a large number of students enter the labor market without any visible, formal certification. This considerably damages their further working life expectations: high exposure to durable and repetitive unemployment, low chances to escape low-skilled jobs, higher chances to be under-employed in low paid and unstable positions.

A recent trend toward apprenticeship is unmistakable, with the number of apprentices steadily increasing from 215,500 in 1992 to 407,809 in 2006-07 (Van de Portal 2009). Whereas apprenticeships used to attract mainly level V stu-

8 At the end of the 3rd form, students may pass a certification formerly called BEPC (*Brevet d'études du premier cycle du seconde degree*) and renamed as "*Brevet des colleges*". This certification is no longer compulsory to continue into the "*classe de seconde*" or to the CAP.

dents, preparing for CAP and BEP, more recently the number of apprentices has increased among level IV and HE students. The distribution of apprenticeships by educational level is provided in Table 3.4.

Table 3.4: Apprenticeship in France, 2006-07

Education Level	V	IV	III	II	I	Total
Numbers of students	235,391	91,950	50,316	16,461	13,690	407,808
%	58	23	12	4	3	100

Note: Niveau V—Preparation for a secondary vocational certification (ISCED 3C); Niveau IV—Preparation for vocational baccalaureate (ISCED 3B); Niveau III—Preparation for Bac + 2 technological certification, type BTS or DUT (ISCED 5B); Niveaux II et I—Preparation for higher education, Masters or doctoral degree or *Grandes écoles* degree (ISCED 5A).

Source: Ministère de l'Education Nationale, Repères et références statistiques (2008).

An apprenticeship in France includes vocational theoretical training at an Apprentice Training Centre (CFA), which alternates with work-based practical training in enterprises. Apprenticeships culminate in a vocational or technical training diploma or an officially recognized title. In general apprenticeships prepare for the same certificates as vocational schooling does, including CAP, BEP, vocational baccalaureate and even at the tertiary level, the higher technician certificate (BTS) and engineer diploma. However, the failing rates of apprenticeship trainees are much higher compared to those which are only educated in vocational schools.

Apprenticeships are most frequent at the CAP level; 53% of all CAP certificates received in 2004 have been attained through this vocational track (Kieffer 2008). This trend towards the broader diffusion of apprenticeships among levels of education results from a broader ideology, along with the incentives for students to make internships in firms, that aims to provide some personal experience of corporations to all students.

Taking a CAP may be combined in various manners with a BEP (*Brevet d'études professionnelles*) or (less frequently) with a vocational baccalaureate. Recently, approximately 40% of all students who took a BEP also earned a CAP. Thus, the CAP has become a sort of safety net for students who take the BEP, contributing to the downgrading of its value as a sign of skills among the working class (Maillard 2007). The BEP, as a point of entry into the labor market, used to be a certificate similar to the CAP, although with somewhat higher standards and of slightly higher value. In 1966 it was simultaneously created with the higher technician certificate (BTS) at tertiary level in order to be able to adjust to technological change. The BEP was conceived as a certification less specialized but of a higher level than the CAP. As a result, the CAP became a narrowly specialized certification, focused on a precise occupation. Thus, distinctions should be made between vocational and tertiary certification. Follow-

ing the creation of the BEP, the CAP did not disappear. Until the end of the 1960s, it was used to recruit young people coming out of primary schooling (certified or not); it later began to enroll pupils who have been through 2 or 3 years of lower secondary schooling. More recently, most people entering the CAP classes have attended the lower segment of secondary schooling. The BEP, however, is now mostly used as a stepping stone to the vocational baccalaureate. The vocational baccalaureate was meant to offer an intermediate level certification between the CAP and the technological baccalaureate. Primarily conceived to provide access to skilled jobs for blue-collar workers (*techniciens d'atelier*) the vocational baccalaureate was later extended to white-collar jobs.

Vocational and technological certificates of upper secondary schooling once opened the door to positions of technicians and mid-range non-manual positions. These various certificates were regrouped under the "technological baccalaureate" label at the end of the 1960s. Part of a scheme to raise the overall educational level of the population, as mentioned above the vocational baccalaureate was created to train highly skilled workers

Reform after reform, year after year, a vocational educational ladder was established, parallel to the general one, with the same hierarchical organization: as in the general system, each step is clearly marked as being inferior or superior to another one: CAP, BEP, vocational or technological baccalaureate in the secondary segment, BTS and DUT in the tertiary. In principle, each level in the vocational system has its corresponding level in the general system. Pathways with access to HE for the originally less successful graduates of general education do exist. While in theory youth are allowed to switch from vocational education into the general system, in practice this rarely happens.

Next reforms of the VET system were not only made regarding qualifications but also in the governance organization of vocational education and training. Classically, France is integrated in typologies as an example of the state-dominated education and training system (e.g., Greinert 2005). This image of the "state-regulated bureaucratic model" (Greinert 2005) would be wrong if interpreted to assume the hegemony of the Ministry of Education at all times and in all places. In fact, its role has been challenged under the influence of a number of factors, such as the competition with other actors, the regionalization process and social partnership, to name a few.

Firstly, in terms of the Ministry of Education and other actors in the governance of the education system, decisions regarding education were made in different places, not only at the state centralized level (Tanguy 1988; Van Zanten et al. 1993). In technological education, there was a split between state-funded applied schools of commerce and industry EPCIs (*Ecoles pratiques de commerce et d'industrie*) and vocational schools due to the initiative of local communities ENPs (*Ecoles nationales professionnelles*) created due to the initiative of local communities. Furthermore, there was a long lasting debate over which of the two departments—Commerce or Education—should be responsible for technological education because of the distrust among corporate actors of the admini-

stration of the Ministry of Education and its teachers: they were accused of being unable to understand the basic needs of firms for manual labor (cf. Tanguy 1988; Van Zanten et al. 1993).

Secondly, over several stages since 1983, the regionalization process has increased the power of regions concerning VET. As a result, regions fund building, renovation and equipment expenses for vocational training schools. Since 1993, regions are also in charge of continuing education for youth aged 16-25. While this regionalization process is viewed by some as a threat to the republican model of education (Charlot 1994; Lelièvre 1996), the reality of this new power attributed to regions is difficult to assess. Most of the time, new forms of interaction apart from the traditional formal hierarchy have been formed, creating at regional level a "new space of rules" within the educational system (Dutercq and Lang 2001; Ourliac 2005). As a result, the French state still plays a major role in vocational education, yet more as a regulatory institution than a financial or decision making one (Bel 2001).

Thirdly, much too often the involvement of corporate actors in France is underestimated. Representatives of firm management and unions have explicitly claimed responsibility for VET, although they do not always deliver the services one could expect. A good example of management involvement in VET is the existence of the *Commissions professionnelles consultatives* (CPCs), which are bi-partisan committees in which management and unions representatives as well as representatives from the relevant ministries work together to evaluate existing programs, create new ones, define the content and methods of training (*réferentiels*) as well as the requirements for the corresponding certification (*référentiels d'examen*). Apart from this formal role, we argue that *Commissions professionnelles consultatives* were active in keeping secondary vocational education separate from the general tracks, in particular by demanding the employment of teachers with long lasting vocational experience. Furthermore, state supremacy over the delivery of certifications, asserted under the Vichy government, has also been recently challenged. The creation of in-firm certifications (*Certificats de qualification professionnelle* – CQP) has been viewed by some as a sign of the erosion of the power of the State over certification (Brucy and Troger 2002; Giret et al. 2005; Coutrot and Lautman 2005).

Other elements such as the implementation of the competence logic (*logiques de competences)* in firms as a new managerial device reveal this increasing power of companies over individual careers and the social desire to increase the relative importance of past vocational experience over school-based background. Viewed as the result of changes occurring within the industrial world that bear upon education (Trottier 2001, 2005; Tanguy 2005), vocational education is at the nexus of a number of influences, not the sole responsibility of the French Ministry of Education. This multiplicity of actors involved results in diverging objectives and multiple tensions (Giret, Lopez and Rose 2005; Coutrot and Lautman 2005).

3.3 Higher Education

Tertiary education in France is structured along the lines of a double hierarchy: the *Grandes écoles*/university divide and the split between the selective and non-selective segments of tertiary education. To understand the hierarchy of tertiary education in France, it is essential to understand the *Grandes écoles*, which are all highly selective institutions. This limited group of extremely prestigious institutions may to some extent be compared to the Ivy League universities in the United States. There are four *Ecoles normales supérieures* (of various prestige levels) that are supposed to train the body of future higher education professors and researchers. In fact, a substantial number of alumni become either higher-level civil servants or managers in private companies. At the *Ecole normale supérieure*, tuition is free and students get a monthly allowance during the three or four years they spend there. Students may continue on to *Sciences Po* or the *Ecole nationale d'administration.* The *Ecole polytechnique* and *Saint Cyr* are military schools that train future military elites as well as a substantial part of future higher managers. *Ecole des Ponts et Chaussées* and *Ecole des mines,* as so-called "specialization" schools train the future elite of technical civil servants, who often end up as top managers in private companies. A wide range of private and public *Ecoles d'ingénieurs* of diverse prestige levels train engineers. Among the diverse schools of commerce there are two tiers, led by a few highly prestigious and very expensive schools, such as *Hautes Etudes commerciales* (HEC), *Essec*, and local organizations, from *Ecole supérieure de commerce* (Sup de co) in Paris to less prestigious provincial institutions. One of the crucial implications of the social closure of the *Grandes écoles* is that civil servants in charge of defining educational policies and top managers of private companies have mainly been trained in the same institutions, such that they know each other and thus may easily transition from a private to a public position or vice versa.

As mentioned earlier, access to the highly selective *Grandes écoles* is almost exclusively limited to those who have spent one, two or three years in similarly selective preparatory classes (*classes préparatoires*) and survived the highly selective contest (*Concours*). Thus, only the best school achievers are likely to apply. In 2006, out of 72,000 applicants, 38,000 were accepted. The preparatory classes to the *Grandes écoles* (CPGE) attract an increasing number of candidates; applications rose from 57,000 in 2003 to 72,000 in 2006. Almost all CPGE students hold the general baccalaureate degree, with only 4,2% holding a technological one. The preparatory training classes (CPGE) are offered in *Lycées*, which benefit from a carefully selected and better-paid body of teachers, and from the relatively strict discipline of secondary institutions. There have been recent attempts to diversify the social composition of enrolments in preparatory classes, e.g., *Conventions éducation prioritaire* (at Sciences Po) as well as efforts to enrol high achieving students from less privileged neighborhoods. However, CPGE are concentrated in Paris and the Ile de France area (30% in comparison to 15% of the general population) whereas 21 French departments have no preparatory

class. Access to elite education is thus strongly unequally distributed. Being accepted in a CPGE and attending classes for 2 years gives access to a certification equivalent to the first 2 years at university in the corresponding discipline. The natural science tracks represent the largest share of all CPGE (64%), followed by business and commerce (17%), with humanities and social sciences (14%) last (Weil 2007).

CPGE students come from a more privileged social and cultural background than regular university students. They are also much more likely to have passed their exam with honors than other candidates. However, significant scholarship programs are available for students in that direction, with 22% of CPGE students in 2006-07 benefiting from a scholarship program. Nevertheless, the high social segregation of CPGE evidences patterns of social closure (Euriat and Thélot 1995; Albouy and Wanecq 2003). However, such selection and closure processes so evident in the status and power of *Grandes écoles* alumni are not limited to them. While access to universities is not terribly selective for those who hold a baccalaureate access to tertiary vocational tracks is selective.

Widely criticized, the university/*grandes écoles* divide is often blamed for the current crisis experienced by universities in France. The *grandes écoles* are accused of stealing the show, attracting the best achieving students, and confining universities to a subsidiary role. However, other potential sources for the current university crisis are manifold (Beaud 2002): lack of economic resources, multiplication of incoherent reforms, increased bureaucratization, the Bologna induced *licence/maîtrise/doctorat* (LMD) reform implemented in a top-down process, and absence of forecasting of what the future entrance to labor markets might look like. Furthermore, a large proportion of students enroll in universities only after they have been refused access to one or the other selective streams (CPGE, BTS, IUT).

In terms of vocational tertiary education, the *Diplôme universitaire de technologie* (DUT) is divided into 25 specialized sections either in production or in services and can be attained in 115 tertiary technological institutes (*Instituts universitaires de technologie* – IUT). The higher technician certificate (*Brevet de technicien supérieur* – BTS), prepared for higher level technician training programs *(Sections de techniciens supérieurs* – STS*)* classes in high schools (*Lycées*), can be earned in 106 different sections or specialties, such as hotel management, industry, health, applied arts, management agriculture. Both the IUT and BTS students are supposed to enjoy equal prestige; however, BTS students are trained in *Lycées*, which are secondary level institutions, and most have been through technical secondary schooling and often come from middle class or families with skilled blue collar background. By contrast, IUT students have generally completed general education with good performances, come from more privileged social backgrounds and are likely to continue further into higher education.

The LMD (*licence, maîtrise, doctorat* or Bachelor's, Master's, doctorate) process refers to the new sequences of degree programs offered in universities, for the standard cumulative duration of years of study (3-5-8). It is often presented as a need to adapt the French system to European standards of the Bologna process. In France the process involves a shift to a unitary credit system, a fragmentation of training time in terms/semesters and a move away from fail/pass examinations to a more flexible system, which has intended and unintended consequences, as well as unknown effects on the quality of education provided. These institutional processes as well as their consequences still need further examination (Powell and Solga 2008, 2010).

In the recent years, a major concern has been the "vocationalization of tertiary education" reflecting the creation of a large number of *licences professionnelles* or vocational Bachelor (B.A.) programs. Vocationalization addresses the problem of how tertiary education should respond to the demands of firms as well as how general and vocational education should interface. As Table 3.6 shows, however, the historical development of vocationalization of higher education in France has its roots in the 1960s, when the tertiary technological institutes (IUT) were established, and thus cannot be viewed as merely a recent phenomenon resulting from the Bologna process or from forces of Europeanization.

Table 3.6: Development of Vocationalization in Tertiary Education, France, since 1966

1966	*IUT (Institut universitaire de technologie)*
1970	*Les ENSI (Ecoles nationales supérieures d'ingénieurs)*
1973	*MIAGE (Maîtrises d'informatiques appliquées à la gestion)*
1974	*DESS (Diplômes d'études supérieures spécialisées)*
1975	*MST (Maitrises de sciences et des techniques) et MSG (Maîtrises de sciences de gestion)*
1984	*DEUST (Diplômes d'études universitaires scientifiques et techniques)*
1985	*Magistères*
1989	*IUFM (Instituts universitaires de formation des maitres)*
1991	*IUP (Instituts universitaires professionalisés)*
1994	*DNTS (Diplôme national de technologie spécialisée)*
1999	*Licences professionnelles*
Since 1999	1,800 vocational B.A. programs (*licences professionnelles*) established

Note: For the English terms please see the glossary.

Since 1999, more than 1,800 vocational bachelor (B.A.) programs (*licences professionnelles*) have been established, attracting approximately 30,000 students. These programs all include an internship in a firm for three or more months. Thus far, the opportunities provided by these programs have largely exceeded

the number of candidates. Overall, 590,550 students are enrolled in vocational streams, including STS, IUT, paramedical studies, medicine, and CPGE, according to the Goulard report (2007).

Another national report (Hetzel 2006) included a chapter on how to "improve vocationalization" suggesting that each student should define his/her own "personal vocational plan" (Rose 2008). It emphasized the acquisition of basic competencies in the domains of foreign languages, computer science and office computer software. According to (Rose 2008), a "vocational program" can be defined in various manners, such as by the orientation of the program towards labor market entry, by the program content and curricula, by the type of teachers participating and so on.

Grandgérard, Maillard and Veneau (2004) have studied how the creation of vocational B.A. programs resulted from a variety of intentions on behalf of actors in charge of designing these new (or not so new) programs. While many are in favor of vocational certification, the organizational problems associated with this increasing demand for vocationalized B.A. programs has made the system harder and harder to supervise by the Ministry of Education (cf. Mignot-Gérard and Musselin 2001).

In any event, creating new programs is one way to ensure that corresponding financial resources will be granted to the university. University presidents are very eager to have these new programs approved, as they hope to fill some previously unoccupied niche in an ever-more differentiated educational system. On the other hand, the Ministry of Education and its experts have a hard time assessing and regulating this rising demand.

The creation of a vocational Masters (*maîtrise professionnelle*) involved a transformation of the academic body and the multiplication of non-academic practitioners who are active in teaching or managing these new programs. With these new programs, a new key role for academics has emerged, as they help students find internships and negotiate the availability of positions in labor markets. Due to the high endogamy and closure of academic networks, this new role is often problematic and gives new power to non-academic actors. Some former DESS programs (highly selective fifth, vocationally-oriented year in university courses of study) have been redesigned as vocational Masters. Interestingly, most vocationally-oriented Masters happen to be more selective than research-oriented ones.

This process manifests that the traditional role of French universities is being transformed. Universities used to be largely considered as mainly in charge of general education, except for Law, Medicine, and Pharmacy. Smaller or larger "*Ecoles*" were in charge of the vocational preparation of elites or middle-range technicians. With this process of vocationalization of HE, the boundary between HE and VET in France seems to be becoming more fluid.

A non-negligible amount of general education has always been part of VET in France since the French system is embedded in an organizational space of labor market and career mobility. Thus, a too narrow/specialized training

would rather decrease than increase graduates' labor market chances. Comparing the institutional dimensions, the differences between general education and vocational oriented education are minor, especially regarding the regulative dimension or in terms of policy. Broadly speaking, the public administration remains the major actor as it has traditionally been. Yet also regarding the normative dimension the personnel employed and the status of the learners are much the same, except for apprentices (a minority), who often spend more time being trained in firms.

Table 3.7: Institutional Dimensions of General Education and VET, France

Institutional Dimension	**General Education**	**VET**
Cultural cognitive		
Dominant goals, ideals	Educated personality, self-control, autonomy, equality, elite formation	General and occupational competence
Orientation in defining learning goals, curricula	Canon of representative knowledge, science (increasingly labor market)	Representative knowledge, labor market, economic demand, qualified workers
Normative		
Status of learners	Pupils, students	Pupils, apprentices, students
Learning organization	Theoretical education in individual organizations	Mainly school-based, technical education, some practical experience
Personnel	Professionalized, civil servants	
Regulative		
Supervision, quality control, governance	Public (national)	Public (national, regional), corporatist influence
Finance	Public (national)	Mostly public, partly private (apprenticeship tax)

At the local individual university level, as well as at the national institutional level, major reforms are in progress. The spread of "new public management" theory in higher education has given birth to the Liberties and Responsibilities of Universities – LRU Bill, passed in August 2007, which grants significant power to university presidents with the proclaimed aim to meet the demands of the "knowledge economy". The increased managerial autonomy granted to university presidents is counterbalanced by an increased control of political and economic authorities (and at the expense of academic self-control). Vinokur (2008a) notes that this so-called autonomy is limited from several standpoints: universities grant degrees or diploma that are still defined and certified at the

national level.[9] Moreover, they may not get involved in the selection process of enrollments nor increase tuition fees. Emphasizing the difference between mainly state-financed and heavily market-based education, French (and German) universities lack a number of assets that British and American universities rely on, such as a philanthropic tradition, including especially the financial support of wealthy alumni as well as operations budgets funded through high tuition fees. Charle (2008), Charle and Soulié (2007) and Vinokur (2008b) all acknowledge that the new reform — intended to bring French universities to the level of excellence of major international higher education institutions — stops halfway.

The above-delineated reforms like the LMD process or the introduction of new public management indicate exogenous influences and pressures coming from the European Union as well as through the internationalization of education combined with endogenous national trends. However, future research is needed to examine which forces, endogenous or exogenous, influence which processes in which ways. Whether and the extent to which these forces may be similar in France and Germany are also open research questions.

3.4 Transitions from Vocational/Higher Education into the Labor Market

Here, we review studies dealing with transitions into the labor market. For instance, Kieffer and Tanguy (2001) focus specifically on the European "Transition in Youth" (TiY) network, emphasizing the extension of the transition period and indeed the emergence of a newly fashioned intermediate period between childhood and adulthood lengthened by extended education and training spells. In this context, the occupational destiny of low-skilled younger workers has been studied in detail by Coutrot and Kieffer (2009). If France is often characterized as a more moderately stratified system in comparison to Germany (e.g., Kerckhoff 2000), this does not necessarily guarantee smooth and rapid school-to-work transitions (Saar et al. 2008), confirmed especially by the figures on less-educated individuals, who are disadvantaged everywhere.

Others describe how the changes in the domain of work tend to modify what is expected of education. Trottier (2005) argues that the emergence of a new style in work organization has brought a new mode of interaction between corporations and the educational system. In contrast to the Taylorist period when employees had to perform precisely described tasks, today the demands on employees are more complex, including problem-solving capacity, firm-specific knowledge, flexibility, managerial qualities, and so on. The relevant frame of reference in France is the firm more than the trade (Maurice et al.

9 Universities are encouraged to set up their own local certification, providing they can fund the corresponding training.

1986), which may account for the fact that continuing education has gained increasing importance, which in turn requires tighter co-operation between corporations and the educational system.

A wealth of quantitative data on labor market entry has been provided by the "Generation" Surveys, conducted by Cereq, since the end of the 1990s. A large sample of young people (16,000 individuals for generation 98) entering the labor market in 1992, 1998, and 2001 were interviewed. This study aims to produce a dynamic picture of transitions, not only at first job but also during the following years. The data for the generation 98 youth in France reveal that time works in favor of entry for all, but that those with a better education background fare better. The ratio of school-leavers who hold a job goes up from 74% after one year, to 83% after 3 years, and to 86% after 7 years. (Obviously, the fact of being employed does not necessarily imply that the job held matches the individual's qualification level.) Among those who hold a university degree, the rates are 80%, 92% and 93%. By contrast, among the less qualified, only 60% hold a job after one year, 66% after three years, 72% after 7 years. A great amount of job mobility is revealed: 74% of interviewees have moved at least one time to a new company over seven years. During the first seven years of activity, a strong decrease in the proportion of fixed term contracts and temporary jobs is to be noted, also proportional to the education level (Couppié et al. 2006; Cereq 2002, 2007). Upward mobility is the rule but this too varies according to educational background, gender, and social background.

Each year a special issue of *Economie et statistique* focused on training and employment, the so-called "Bilan Formation – Emploi" is published by the French national statistical institute which offers valuable sources for portraying youth transition processes (Gautié and Gurgand 2005). As in the years especially individuals with low or no qualification are highly affected by unemployment (nearly 40%) during the first four years after leaving school (Table 3.8). Individuals having completed vocational training suffer significantly less risk but nonetheless have a high unemployment rate of about 22%. Only those individuals who have obtained a high qualification level (ISCED 5A/B) are significantly less affected. The risk of being unemployed decreases with every additional year after leaving school whereas those without a proper qualification tend do have increasing difficulties in comparison to earlier periods like in the 1970s for example. Overall, the gender difference in relation to unemployment is rather negligible. Yet among individuals with a low qualification levels, women have a significantly higher risk of being unemployed.

A highly controversial theme is the concern for educational inflation and the resulting downgrading *(déclassement)* and feelings of frustration (Forgeot and Gautié 1997; Tanguy 2005; Duru-Bellat 2006). However, comparing which certifications provide access to what type of jobs over time is no easy task when both the structure of education and the structure of jobs have changed. Hence, the controversy over the magnitude of the *déclassement* process remains. Secondary analysis of the "Génération 98" Surveys have been conducted to study the

economic returns of certifications over time (Nauze-Fichet and Tomasini 2005) or to assess to what extent CAP-BEP certifications were still able to provide access to skilled jobs (Bonnal et al. 2005). The analyses revealed that especially male apprentices in comparison to graduates of full time vocational schools have a high probability to quickly enter in a skilled job and to stay employed, provided that they have obtained their final certificates. In contrast female apprentices could not benefit in the same way. Here rather the female graduates of fulltime vocational schools could faster get access to a skilled job. Furthermore graduates being trained in the industrial sector enter more quickly into the labor market.

Table 3.8: Unemployment rate <4 years after graduation by obtained qualification and sex

Year	ISCED level	Qualification	Men	Women	Total
2007	5A	*Enseignement supérieur long*	9	9	9
	5B	*Enseignement supérieur court*	11	7	9
	3A/3B	*Bac et equivalents*	14	13	14
	3C	*CAP-BEP et equivalents*	19	27	22
	2A	*Brevet, CEP et sans diploma*	36	41	37
		Overall	17,1	14,8	16,0

Source: Institut national de la statistique et des études économiques – INSEE (2007). enquêtes Emploi http://www.insee.fr/fr/themes/tableau.asp?ref_id=NATnon03314&reg_id=0

Following Verdier's (1996) suggestion to adopt the perspective proposed by Maurice, Sellier and Silvestre (1986), the design and organization of the particular relationship between the education and production systems can be seen as resulting from a certain mode of combining labor training, work organization, coordination of work activities, and the way industrial relations are managed and negotiated between social partners. Our analysis above indicates that in France this mode of coordination has been changing; however, this change has occurred incrementally, not radically.

3.5 Social (In)Equality

Over the last 30 years, the educational landscape in France has undergone some relatively dramatic changes, with undeniable increases in participation and attainment rates (Coutrot and Kieffer 2009): in 1970, 56% of all individuals aged 25-34 had received either little or no formal education; their certification level was at best the certificate of primary education (*Certificat d'études primaires*), with a minority (12%) having attended vocational classes without having

passed the "CAP" (*Certificat d'aptitude professionnelle*), a vocational certificate that provided access to skilled jobs. Not even a decade later, the rate of individuals with no qualification dropped to 32% and by 2003, the proportion had fallen to 11%. At the end of the 1970s, those who have received some extra vocational training (but did not pass the CAP) represented between a fifth and a quarter of an age cohort, but this rate was halved by 2003—back to its previous level (12%). At the other end of the distribution, the proportion of individuals holding a certificate or a degree had increased enormously. Yet despite this considerable reduction, these two groups with less qualification have not completely disappeared. They form the bulk of all unemployed, and to a lesser extent, represent most unskilled groups. As such, they are of particular interest for decision makers involved in educational and social policies.

In terms of upper secondary vocational training, the share of CAP and BEP holders increased consistently over the period but more recently has dropped, as the latest vocational degree; the *Baccalauréat professionnel* attracts a larger number of students. Women, who used to be over-represented in the less qualified categories, have caught up at most levels except for the CAP, which used to be, and still is, geared more towards industrial jobs than towards white collar and service sector jobs. Technical education, like the *Brevet de technicien supérieur* (BTS) and the *Diplôme universitaire de technologie* (DUT)[10], and tertiary academic education have grown considerably and a larger share of the cohort attends engineering schools and *grandes écoles*, considered the best tertiary institutions (see Figure 3.1 for overview of the educational system from pre-primary to tertiary). The various aspects of educational expansion have been widely documented and while it is not possible to refer to all these studies here, most authors acknowledge a massive increase of educational participation proportional to social origins (Girard 1970); however few authors take into account the forms of internal differentiation that occur within the educational system. They point out that this rate of increase is somewhat slower among children of working class origin (manual and non-manual) than among other categories and that the former tend to be more frequently oriented towards technological and vocational tracks. Children of less favored social origins less often participate in longer duration schooling programs.

The debate over the capacity of educational expansion policies to reduce unequal access to education has been very active in France. Such investigations are tightly linked with social mobility research, indebted as they are to the idea that education organized on a meritocratic basis should help to develop a more fluid social society, in which the weight of social inheritance (ascription) would be less important than school achievement in defining the future life conditions of individuals. This has been a major hope of western societies for decades.

Throughout the world, public policies have emphasized the importance of more years of formal education as the means to achieve "the twin aims of eco-

10 All English terms are named in the glossary.

nomic growth and social inclusion" (Grubb and Lazerson 2004). This "educational gospel" (Grubb and Lazerson 2004) went hand-in-hand with "vocationalism" (Hayward 2004). The "vocationalist turn" in education is about making learning more relevant and therefore also to motivate even lower attaining and disaffected learners (Deer et al. 2004). Gleeson and Keep (2004) argue that the VET system has been used to create a myth or a new spirit for the New Right, at the expense of other educational aims, exemplified in frequent conflicts of interest between individuals, employers and an education system run under the aegis of a state obsessed with the idea of an enterprise culture. An underlying suspicion about the effect of such policies is that there is no guarantee that continued higher education expansion will automatically lead to the many positive social and economic outcomes that policymakers wish for, such as increased access to higher education of those from lower class backgrounds.

Whereas most European investigators use "educational expansion", many French authors make use of the term "democratization" of schooling. This metaphorical use of a term that belongs to the political lexicon can be seen as an attempt to believe or make us believe that the quantitative increase in access to education has led to a victory over social inequalities. This is far from being the case, as indicated in studies of all three main types of inequalities: access and participation, achievement and attainment, and returns to education via participation in labor markets.

Convert (2003) documents the correspondence between baccalaureate types (general, technological or vocational), social origin and further destinations in education: Students of privileged social backgrounds, who are more likely to continue into the *grandes écoles* or complete 4 to 5 years of university study, most frequently pass the general baccalaureates. At the other extreme, vocational baccalaureates are held by students of working class origin and lead either to direct entry into labor markets or to the less prestigious segments of tertiary education. In between, students holding a technological baccalaureate are more likely to choose 2-year tertiary programs. Whereas students from privileged backgrounds may take risks in choosing long-term programs, less privileged students may prefer shorter programs that offer more possibilities for segmenting the risks Convert (2003). The former feel less compelled by their first involvement into a subject whereas the latter tend to stick to the options defined by the type of *Baccalaureate* they have chosen Convert (2003).

The proportion of baccalaureate-holders per cohort has risen. But, as the education system changed, a new hierarchy was formed in education, which contributes to the reproduction of the social structure. The types of baccalaureates, the meaning of passing it with honors, the options for certain types of curricula (*grandes écoles*, law, medicine) are renewed social markers that bind future destiny (Duru-Bellat and Kieffer 2008).

Moreover, social background weighs upon the economic returns of education on the labor market. Couppié et al. (2006) show that over the first seven years of their careers, a substantial proportion of youth of the generation 98 co-

hort moved up from unskilled into skilled jobs, with the proportion of young people holding unskilled jobs dropped from 31% of the cohort to 18%, and the proportion of managerial staff (*cadres)* increasing from 12% to 18%. However expectations are not the same across the cohort. Among young people holding a Bac+2 certification who start their career in a middle class occupation (*professions intermédiaires*), the likelihood to become promoted to a *cadre* position is 15% among the children of the bourgeoisie, but only 7% for those of working class origin.

If the thesis of "segregative democratization" (Duru-Bellat and Kieffer 2001; Merle 2002) has been confirmed, the question remains how the recent transformation of HE and VET responding to Bologna and Copenhagen will affect these disparities.

4. Comparison and Outlook

Against the backdrop of continuing Europeanization processes as well as endogenous national reforms of education systems, we analyzed the contemporary situation of national VET and HE systems and their relationship in Germany and France. First, in each country we charted the actual pathways into and within VET and HE as well as transitions from VET/HE into the labor market, concluding with a brief statement on the consequences of these institutional structures for social (in)equalities. In briefly comparing the contemporary situation in both countries, we now address whether traditional typologies in which Germany and France were compared continue to be valid. To what extent do the ideal-typical representations, which summarize key differences emphasized in comparative studies of postsecondary education and training systems and labor markets, continue to accurately represent systems after the past several decades of institutional change?

Our comparison of Germany and France follows the logic of difference as it contrasts dissimilar skill formation sectors—in federalist Germany and in more centralized France. Germany has long been known as a country with smooth school-to-work transitions—largely due to vocational training playing a far more significant role in preparing young adults for the labor market. While the model of a successful pathway mainly refers to the dual system proper, which combines in-school and in-firm training, we have seen that this segment is no longer quantitatively the dominant pathway, even if it remains the ideal upon which the German model is based. Indeed, the VET system in Germany now provides nearly as many youth state-funded, mainly school-based training opportunities in the „pre-vocational training system" as those that participate in the dual system of apprenticeship training.

We argue that the pre-vocational training system maintains the logic of the German VET system, built on the „vocational principle," by defending the traditional structures in VET as it reduces the pressure of the mismatch between the lack offered training opportunities and youth seeking such apprenticeships. Yet this gap diverts especially less-educated youth into programs that do not lead to equal qualifications. Further, the lack of training opportunities, which is often justified with employers' desire for well-prepared school-leavers, exists despite the increased educational attainments of secondary school-leavers (see Solga 2008). Indeed, the standard needed to access training opportunities and therefore skilled jobs is now the intermediate school-leaving certificate (*Mittlere Reife*). The proportion of school-leavers from the *Hauptschule*, which (alongside the special schools) is the lowest secondary school form, has declined as many federal states (*Bundesländer*) eliminate this school type altogether and the remaining students have ever-fewer options for further education and training (Solga 2005). If half of all leavers of the lower secondary school (*Hauptschüler*) now cannot find training opportunities, then this signals that a major VET

pathway has more than incrementally shifted. Given this trend from the investment of firms in training opportunities toward the provision of training programs by the state, the frequent typological classification of Germany as a country with a dominant dual system that combines in-school and in-firm training must be reevaluated. The preeminent VET model worldwide seems to have lost much of its strength. Yet not only has the VET system changed.

While the German HE system has typically been characterized as conservative and less than innovative, over the past few years Germany's higher education system has seen a number of liberalizing reforms that have had considerable and lasting impact. In fact, as one of the original four countries that devised and have driven the Bologna process, Germany has been on the forefront implementing the reforms codified therein. Furthermore, in HE, elements of vocationalization are increasingly seen throughout the country, as many HE organizations and federal states (*Bundesländer*) have interpreted the Bachelor's degree not so much as a general, liberal arts certificate, but instead—inspired by the vocational principle (*Berufsprinzip*) that is central to German conceptions of skill formation—as a specific degree that ideally would vocationally qualify young adults. Goldschmidt's (1991) distinction of France exhibiting "administrative centralism" while Germany embraces "politicized legalism" continues to have some credence. However, French HE seems to have changed more through endogenous, longer-term pressures, whereas German HE has quickly changed in ways compatible with European goals and norms. Ben-David's ([1977] 1992) comparison also continues to offer relevant insights, as access to tertiary education has not opened up to youth from lower-class backgrounds and contemporary discourses of "excellence" are found in both countries. However, if these VET and HE typologies continue to capture important aspects of each system, none of these addresses the vocationalization of HE and the rising importance of general education in training programs, especially related to information technology.

In Germany, such organizations as the vocational academies offer hybrid courses of study that combine academic general education and in-firm training phases. But also academic B.A. programs include internships and praxis-oriented elements such as „soft skills" training that aim to prepare young adults for work in a variety of firm contexts. Yet in contrast to the broad diffusion of B.A./M.A. programs, new organizational forms at the nexus between VET and HE remain relatively marginal. Further research should focus on these organizations pioneering new pathways within and between the two organizational fields in skill formation (see Powell and Solga 2008, 2010).

In terms of transitions into labor markets, not only are transitions becoming less smooth but also youth unemployment rates have climbed, even more so than for other age groups. By contrast, those who complete HE suffer the least risk of unemployment. This too suggests a challenge to the traditional view of the two parallel skill formation systems that continue to be relatively more

equal—in terms of status and labor market outcomes—in Germany than in many other European countries.

In France, there are several trends, such as regionalization in education and vocationalization of higher education, that indicate incremental processes of change over longer periods of time, not the immediate reaction to an external shock or the direct implementation of European standards. In terms of pathways in VET, the traditional school-based route has recently been complemented by an unmistakable increase in apprenticeship, which has gone hand-in-hand with the strengthened participation of firms and social partners in VET. These corporate actors may increasingly claim responsibility for VET, even if they often fail to deliver on their promises. The all-powerful Ministry of Education has been challenged: due to regionalization, the French national government now has less of a role in financing and decision-making in skill formation, even if it retains regulatory authority. Thus, the image of the state-dominated education and training system (Greinert 2005) in which France exemplifies the "state-regulated bureaucratic model" should not be misinterpreted to mean that the Ministry of Education is hegemonic. Furthermore, through the continuing process of vocationalization of HE, the gap between HE and VET is blurred, especially in comparison with Germany, where the boundary is still quite obvious and difficult to bridge (Baethge 2006), despite the newer and still marginal development of hybrids. The classification of France among those countries with heterogeneous and differentiated HE systems is true now as it has been for decades.

Regarding labor market transitions, the designation of France as an "organizational space" remains valid because the design and organization of the relationship between the educational system and firms still reflects the long-term evolution of combining education and training mainly in school settings and employment careers largely based within organizations depending not as much on certificates as in Germany, which definitely remains a "qualificational space". This original contribution of Maurice, Sellier, and Silvestre (1986) still proves a useful heuristic for comparing these two countries, especially regarding the education/economy nexus and resultant transitions from school-to-work.

Comparing France and Germany in terms of social inequalities, social background effects have remained stable over the past few decades when comparing access to postsecondary education (Duru-Bellat, Kieffer and Reimer 2008). This does not imply that the difference in level of social inequalities has changed. Germany maintains much earlier moments of selection than does France, where a much larger proportion of each cohort accesses HE: Whereas approximately four-fifths of the cohort passed a *baccalaureate* in France, in Germany only around two-fifths received the *Abitur*. Educational expansion has been more extensive in France, but differentiation, both at secondary and tertiary levels, has also been considerable, which raises the question of benefit of participation in courses of study offered by the less prestigious organizations.

Secondary education has become less socially selective, as more young people earn some type of *baccalaureate* than in the past, yet access to the general baccalaureate remains more socially selective than to technological and vocational baccalaureates. By contrast, in Germany, the proportion of students who earn the tertiary entry qualification (*Abitur*) depends on earlier selection processes (and the transition probabilities that differ by federal state (*Bundesland*) and therefore we may still expect that social selection in that country plays a lesser role in the move from secondary into postsecondary education and training than in the transition into (upper) secondary schooling.

At tertiary level in France, the gap between mass tertiary education and elite education provided through the *grandes écoles* remains important because a large share of the students who compete for upper management and higher civil servant positions are recruited from these organizations. In Germany, the distinction between universities and universities of applied science may have weakened, especially in discursive terms, as marketing strategies have led to changes in organizational names and program labels. The divide remains prominent despite the introduction of Bachelors and Masters degrees in both organizational forms, which seems likely to facilitate more direct competition for students. Such relationships, embedded in complex institutional arrangements, between vocational and higher education that affect learning opportunities and future occupational positions will have to be further explored, especially as standardization efforts, such as the European Qualification Framework (EQF), are fully developed and applied.

Finally, both countries have evolved to become less like their original (ideal-typical) models in VET and HE. Indeed, as Verdier (2009) argues, France's slow shift from a wholly academic-oriented model to a more corporatist one (in others words: closer to the German model) seems to be occurring simultaneously with Germany's shift from a corporatist model to one in which the state plays a much more considerable role. The empirical evidence provided here challenges the myth of a well-functioning and dominant "dual system" that serves all youth who aspire to participate in it. Yet the apprenticeships offered in the French VET system are still quantitatively marginal in comparison, which parallels the very small proportion of post-secondary, non-tertiary vocational courses of study in Germany when compared to the diversity of such options provided in France. Thus, it is far too early to speak of convergence even if incremental changes in both countries have widened the distance between reality and ideal-types put forth in prominent typologies two decades ago.

The effects of European policies seem to go deeper in Germany than in France, yet it is too early to measure all the (un)intended consequences of ongoing internationalization and Europeanization processes. To more fully understand the trends delineated here, attention should be paid to the ideational, normative, and regulative dimensions, as such distinctions help to clarify whether the changes witnessed affect underlying principles, lead to true standardization, or remain recommendations within the non-binding ("soft law")

open method of coordination (see Powell and Solga 2008, 2010). Furthermore, the focus must be on both incremental changes as well as more transformative challenges posed by the Bologna and Copenhagen processes. On-going Europe-wide policy reforms to achieve goals of the European Union, such as globally competitive markets in education and work or equality and social inclusion, demand that researchers also address continuing disparities in skill formation and discuss the consequences for social inequality of institutional changes in each country's vocational and higher education systems.

As self-proclaimed meritocracies, both France and Germany have regularly initiated and implemented a variety of educational reforms that aim to increase skill formation quality and equality. Yet the varying institutionalization of HE and VET in France and Germany has led to considerable and persistent differences in the organization of skill formation, representing contrasting learning opportunity structures and visions of equality of educational opportunity upon which those are based (see Duru-Bellat et al. 2008). Further analyses, especially with regard to VET, are needed to understand the complex structures and pathways made available and their consequences for students in terms of accessing learning opportunities, staying in education, earning valued degrees, and participating in society.

5. Appendix

Upper Secondary Education Organizational Forms, Germany (ISCED 3A, 3B, 4A)

ISCED	**Organizational Form**	**Entrance Requirement (minimum)**	**Certificates awarded**
3B (access to 5B)	*Berufsschule* (part-time vocational school plus apprenticeship; dual system)	*Hauptschulabschluss*	Leaving certificate/ certificate of apprenticeship
3B (access to 5B)	*Berufsfachschule* (full-time vocational school)	*Mittlerer Schulabschluss**	Assistant …, Assistant … + *Fachhochschulreife*, leaving certificate
3B (access to 5B)	*Schule des Gesundheitswesens* (health sector schools)		Leaving certificate for auxiliary medical occupations
3A (access to 5A)	*Berufliches Gymnasium/ Fachgymnasium* (vocational Gymnasium)	*Mittlerer Schulabschluss**	*Fachhochschulreife, Fachabitur/fachgebundene Hochschulreife, Abitur/allgemeine Hochschulreife*
4A (access to 5A)	*Fachoberschule, Berufsoberschule FOS 13* (in a couple of federal states), BOS 13	*Mittlerer Schulabschluss** + apprenticeship certificate	*Fachhochschulreife, Fachabitur/fachgebundene Hochschulreife, Abitur/ allgemeine Hochschulreife*
4A (access to 5A)	*Berufskolleg*	*Mittlerer Schulabschluss**	Regionally specific, a selection of above

** Realschulabschluss, Mittlere Reife, Fachoberschulreife*

Source: Adapted from Schneider (2008b).

Post-secondary & Tertiary Education Organizational Forms, Germany (ISCED 5A & 5B)

ISCED	Organizational Form	Entrance Requirement (minimum)	Certificates Awarded	Duration (years)
5B	*Schule des Gesundheitswesens* (health sector schools)	Qualification for medical auxiliary occupations or apprenticeship certificate	Leaving certificate	2-3
5B	*Fachschule, Fachakademie* (part- or full-time advanced vocational schools)	Apprenticeship certificate and work experience in the respective occupation	*Fachhochschulreife, Fachschulabschluss*	2
5B	*Berufsakademie* (vocational academy)	*Abitur/allgemeine Hochschulreife*, employment with a company	Bachelor, *Diplom* (BA)	3
5B	*Hochschule für öffentliche Verwaltung* (college of public administration)	*Fachhochschulreife*, plus usually appointment by the respective public authority	*Diplom* (FH)	3-4
5A	*Fachhochschule/ Hochschule*	*Fachhochschulreife*, plus often a relevant internship	Bachelor Master *Diplom* (FH)	3-4 1-2 4
5A	*Universität, Hochschule*[11]	*Abitur/allgemeine Hochschulreife*	Bachelor Master *Diplom* Magister Artium *1. Staatsexamen*	3-4 1-2 4-5 4.5 4.5

Source: Adapted from Schneider (2008b).

11 The term *Hochschule* refers to *Technische Hochschule* (technichal universities), *Pädagogische Hochschule* (colleges of education), and *Musik- und Kunsthochschulen* (conservatories and art colleges).

Upper Secondary Education Organizational Forms, France (ISCED 3A, 3B, 3C)

ISCED	**Organizational Form**	**Entrance Requirement (minimum)**	**Certificates awarded**
3A (access to 5A and 5B)	*Lycée d'enseignement général*	College (lower secondary education)	*Baccalauréat général*
3A (access to 5A and 5B)	*Lycée d'enseignement technologique*	College (lower secondary education)	*Baccalauréat technologique* (technological baccalaureate)
3B (access to 5A and 5B)	*Lycée d'enseignement professionnel*	*BEP* (vocational training)	*Baccalauréat professionnel* (vocational baccalaureate)
3C (access to 3B)	*Lycées d'enseignement professionnel/ centres de formation d'apprentis (CFA)*	College (lower secondary education)	*BEP – Brevet d'études professionnelles* (certificate of vocational education)
3C (access to 3C and *BEP*)	*Lycées d'enseignement professionnel*	College (lower secondary education)	*CAP – Certificat d'aptitude professionnelle* (vocational education certificate)

Source: Adapted from Kieffer (2008).

Post-secondary & Tertiary Education Organizational Forms, France (ISCED 5A & 5B)

ISCED	Organizational Form	Entrance Requirement (minimum)	Certificates Awarded	Duration (years)
5B	*Lycée sections de techniciens supérieures*	*Baccalauréat*	*BTS*	2
5B	*Instituts universitaires de technologie*	*Baccalauréat*	*DUT*	2
5B	*Instituts universitaires de technologie/universités*	*DUT/BTS*	*Licence professionnelle*	1
5B	*Ecoles et institutes spécialisé*	*Baccalauréat*	*Diplômes*[12]	3-4
5A	*Instituts de la Formation de la Santé*	*Baccalauréat*	*Diplômes*[13]	6-11
5A	*Grandes écoles*	*CPGE*	*Master/maîtrise*	4-5
5A	*Universités* (universities)	*Baccalauréat*	*DEUG* *Licence* *Master* *Doctorat*	2 3-4 1-2 3-4

Source: Adapted from Kieffer (2008).

12 E.g., for the education and training of health care professions like nurses and midwives.

13 E.g., for the education of professionals like medical doctors or pharmacists.

6. Glossary

French Educational System

French	Abbreviation	English
Baccalauréat professionnel	Bac pro	Vocational baccalaureate
Brevet d'études professionnelles	BEP	Certificate of vocational education
Brevet d'études du premier cycle du second degré	BEPC	Certificate of secondary general education
Brevet de technicien supérieur	BTS	Higher technician certificate
Centres de formation d'apprentis	CFA	Apprenticeship training center
Certificat d'aptitude professionnelle	CAP	Vocational education certificate
Certificat d'études primaires	CEP	Certificate of primary education (does not exist anymore)
Certificats de qualification professionnelle	CQP	In-firm certifications
Commissions professionnelles consultatives	CPC	Bi-partisan committees in charge of designing vocational programs
Classes préparatoires aux grandes écoles	CPGE	Preparatory classes to the "Grandes écoles"
Ecoles nationales professionnelles	ENP	Vocational schools due to the initiative of local communities
Ecole nationale supérieure d'ingénieur	ENSI	HE School of Engineers
Ecoles pratiques de commerce et d'industrie	EPCI	Applied schools of commerce and industry (state-funded)
Diplôme d'Accès aux Etudes Universitaires	DAEU	Diploma providing access to university studies
Diplômes d'études supérieures spécialisées	DESS	Upper tertiary specialization program certificate
Diplômes d'études universitaires scientifiques et techniques	DEUST	Scientific and technical tertiary program certificate
Diplôme national de technologie spécialisée	DNTS	Vocational certificate of students who continue higher education after the DUT or BTS
Diplôme universitaire de technologie	DUT	Tertiary technological certificate
Gestion prévisionnelle des emplois et des compétences	GPEC	Managerial forecast of jobs and competencies
Instituts universitaires de formation des maitres	IUFM	Tertiary teacher training
Instituts universitaires professionnalisés	IUP	University institute of professional education
Institut universitaire de technologie	IUT	Tertiary technological institute

French	Abbreviation	English
Licence		Bachelor degree (general or vocational)
Licences professionnelles		Vocational BA programs
Lycées		Secondary school
Lycées d'enseignement professionnel		Vocational school
Magistère		Specialized Masters-level program
Ministère de l'Education Nationale	MEN	Ministry of Education
Méthodes informatiques appliquées à la gestion des entreprises	MIAGE	Computer training programs applied to corporate management
Maîtrise des sciences de gestion	MSG	Management Masters program
Maîtrise des sciences et des techniques	MST	Science and technology Masters degree
Plan régional de formation pour les jeunes	PRDFJ	Annual regional planning for youth training
Recteur		Representative in the region of the centralized state
Référentiels		Content and methods of training
Référentiels d'examen		Training certification
Sections de techniciens supérieurs	STS	Higher level technicians training programs
Validation des acquis de l'expérience	VAE	Certification of experience-based competencies

German Educational System

German	Abbreviation	English
Allgemeine Hochschulreife/Abitur	Abi	General higher education entry certificate
Berufliches Gymnasium/Fachgymnasium		Vocational Gymnasium
Berufsakademie		Vocational academy
Berufsfachschule		Full-time vocational training schools
Berufsschule		Part-time vocational school plus apprenticeship
Berufsvorbereitende Maßnahmen		Vocational preparatory courses
Diplom		Degree equivalent to or above a Master
Duales System		Dual system (of in-school and in-firm training)
Duales Studium		Dual studies (vocational training and higher education combined)
Fachgebundene Hochschulreife	FHR	Subject-specific entry certificate to tertiary level
Fachhochschulen	FH	Universities of applied sciences
Fachhochschulreife		Entry certificate for universities of applied science
Fachschule, Fachakademie		Part- or full-time advanced vocational schools
Fachschulen im Gesundheitsbereich		Schools for healthcare professions
Gesamtschule		Multi-track comprehensive school
Gymnasium		Upper secondary school
Hauptschulabschluss		Certificate of completion of compulsory basic secondary schooling after 9 years
Hauptschulabschluss (erweiterter)		Certificate of completion of compulsory basic secondary schooling after 10 years
Hauptschule		The lower secondary school covering school years 5 to 9 or 10
Hochschule für öffentliche Verwaltung		College of public administration or universities for public administration
Kunsthochschulen and Musikhochschulen		Colleges of art and music
Magister		Degree equivalent to Master
Mittlere Reife		Intermediate secondary school-leaving certificate
Realschule		Intermediate track secondary school

German	Abbre-viation	English
Realschulabschluss		Intermediate secondary school-leaving certificate
Schule des Gesundheitswesens		Health sector schools
Schulisches Berufsgrundbildungs-jahr	BGJ	Full-time school-based vocational basic skills preparation year
Schulisches Berufsvorbereitungsjahr	BVJ	School-based vocational preparation year
Sonderschule		Special school
Staatsexamen		Civil service examination
Übergangssystem		Pre-vocational training system
Universität		University
Verwaltungsfachhochschulen		Colleges of administration

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