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Luxembourg, 7 August 2013 Lukas Graf

1. INTRODUCTION

This book analyzes institutional changes in the relationship between vocational education and training (VET) and higher education (HE) in Austria, Germany, and Switzerland. It is quite common for foreign observers to praise these three countries for the quality of their VET systems.[1] All three countries are part of the "collective skill system cluster" (Busemeyer and Trampusch, 2012) and are renowned for their extensive dual apprenticeship training systems at upper-secondary level (see Ebner, Graf, and Nikolai, 2013). Dual apprenticeship training distinguishes itself from vocational training in most other European countries as it integrates training in schools and companies on the basis of extensive mediation and coordination between the state, employers, and labor representatives. In this "dual corporatist" model, practical vocational training plays a more dominant role than academic, general education – at least when compared to the two other "classic" training models, the "liberal market economy" model (e.g., in the United Kingdom) and the "state-regulated bureaucratic" model (e.g., in France) (Greinert, 2005; see also Powell, Coutrot, Graf et al., 2009).

However, in recent years Austria, Germany, and Switzerland have also faced increasing criticism regarding the lack of permeability they provide between VET and HE. That is, as well as having an extensive system of dual apprenticeship training, there is also a historically evolved strong institutional divide between the fields of VET and HE in all three countries. In analyzing the case of Germany, Baethge (2006a: 7) has referred to this institutional divide as an "educational schism." In fact, it can be argued that the education systems of Austria, Germany, and Switzerland are made up of two separate organizational fields, one for VET and one for HE.[2] Over the past decades this institutional divide has been increasingly called into question. For example, the demand for skills in the workplace has changed towards more general analytical skills and away from narrowly defined job-specific skills, which challenges the main emphasis of vocational education and training practices (see Mayer and Solga, 2008: 1–4; see also Solga, 2009; Streeck, 2012). The rise in the level of average skill requirements in the service economy and knowledge society (e.g., Kuhn, Baethge, Hinz et al., 2009; Buhr, Freitag, Hartmann et al., 2008), as well as the rise in young peoples' educational aspirations, call for greater permeability between the fields of VET and HE.

1 Please note that the Appendices include a list of abbreviations and a list of translations of key terms.

2 The precise meanings of "vocational education and training" and "higher education" in the German-speaking context are elaborated in Section 3.2.

Given that the above-mentioned educational schism hinders individuals' mobility between the respective organizational fields, institutional changes in the relationship between the fields of VET and HE that would lead to increased inter-sectorial permeability are central to enhancing educational and social mobility and life chances (on the German case, see Powell and Solga, 2010, 2011). In this context, greater permeability between VET and HE can be seen as a necessary condition for safeguarding what is broadly referred to as "equality of educational opportunity" (see, e.g., Farrell, 2003).[3] In Germany, Austria, and Switzerland (i.e., the DACH countries[4]) children are usually sorted into vocationally-oriented or academically-oriented school tracks at a very early stage (in some cases by the age of ten). An increase in institutional permeability between VET and HE would reduce the impact of entering a specific educational pathway at an early stage on the range of alternative educational pathways feasible at a later stage and, hence, contribute to the "de-endogenization" of individual life courses.[5] This is all the more relevant since some parts of the VET systems in Austria, Germany, and Switzerland are struggling to provide young people with training opportunities or decent chances on the labor market (see, e.g., Baethge, Solga, and Wieck, 2007 on Germany; Graf, Lassnigg, and Powell, 2012 on Austria). It has also been argued that reducing the institutional barriers between dual apprenticeship training and HE is essential to, at best, retain the high status of dual apprenticeship training, or, in the worst-case scenario, avoid its ghettoization (Finegold, 1999: 412–414).

Furthermore, the institutional divide between VET and HE is being increasingly challenged by recent developments at the global and European levels.[6] Over the last few decades the international dimension of education has evolved into one of the key reference frames in education development worldwide (e.g., Lanzendorf and Teichler, 2003: 220). In Europe, the Bologna Declaration was signed in 1999 by 29 European educational ministers to establish a Europe-wide HE area. This process provided the initial impetus for a range of other European educational policies. Next, the signing of the European Council's Lisbon Strategy in 2000 indicates the heightened awareness of the importance of the quality of education for economic competitive-

3 A variety of dimensions of equality have been subsumed under the heading of "equality of educational opportunity," making it a highly problematic term. See, for instance, Solga (2009 [2005]) for a critical discussion of the concept of equality of opportunity (*Chancengleichheit*).

4 DACH is an abbreviation for Germany (D), Austria (A), and Switzerland (CH) commonly used in German when referring to these three countries as a group ("*Dach*" is the German word for "roof").

5 See, for instance, Mayer (2009) for a review of life course research.

6 On the complex (inter-)relationship between globalization, internationalization, and Europeanization in the field of education, see, for example, Altbach (2006: 123) or Graf (2008: 5–6).

ness and social cohesion. Thus, the European Union is to become "the most competitive and dynamic knowledge-based economy in the world" (Lisbon European Council, 2000). Ever since, European education and training reforms have been gaining in strength incrementally but forcefully, and have also been demanding greater mobility between VET and HE (Powell, Bernhard, and Graf, 2012b). In 2002, the Copenhagen Declaration was signed by 31 ministers to enhance European cooperation in vocational education and training (see Balzer and Rusconi, 2007). In this context, one of the key tools is the European Qualification Framework (EQF), which was formally adopted by the European Parliament and Council in April 2008. One of the basic goals of the EQF is to increase permeability between VET and HE, as it subsumes both under one qualification framework on the basis of a review of all qualifications available within a national education system by the relevant national stakeholders.[7]

In consideration of the variety of contemporary dynamics in skill formation sketched above, my research question is the following: *How do the relatively similar skill formation systems in Austria, Germany, and Switzerland deal with the aforementioned challenges to the rigid institutional divide between VET and HE and with what implications for institutional permeability between these two organizational fields?* My analytical framework is based on historical-comparative theory and, more specifically, on a combination of comparative historical institutionalism (especially Streeck and Thelen, 2005b; Mahoney and Thelen, 2010a on gradual institutional change; also Katzenstein, 1984; 2003 on small state corporatism) and organizational institutionalism (e.g., DiMaggio and Powell, 1991b; Brint and Karabel, 1991; Lawrence and Suddaby, 2006). To analyze historical developments at the nexus of VET and HE in Austria, Germany, and Switzerland, this book, in a first step, uses systematic process analysis to analyze the three country cases (see, e.g., Mahoney, 2004; Hall, 2008). More generally, the study is sensitive to the historical roots of the three skill formation systems, but focuses on the period since the late 1960s – when the expansion of higher educational levels was increasingly being debated (e.g., Mayer, 2008: 603–612; Hadjar and Becker, 2006) – up to the present era of Europeanization. In a second step, the three country cases are contrasted to see whether any general developmental patterns are observable.

7 Based on non-binding recommendations, member states voluntarily commit themselves to develop a national qualification framework (NQF) that will later be referenced to the EQF. The principle goal of the EQF with its eight reference levels is to diffuse and promote lifelong learning and to make national qualification systems more readable and understandable within and across different countries to facilitate national and international mobility. Under the banner of lifelong learning as an ideal, the "diffused" norms, standards, and regulations include increased international transparency, learning outcome orientation, and enhanced permeability regarding all types of education. The EQF is further discussed in Chapter 5 and presented in full in Appendix 11.3.

Baethge (2006a) has done pioneering work in identifying and examining the educational schism between VET and HE in Germany. He argues that the separate institutionalization of and the resulting divide between VET and HE stem from the pre-industrial era and are rooted so deeply in the social structure of society, as well as the mode of diversified quality production, that all efforts at reform over the 20th century have failed to transform it (Baethge, 2006a: 16; see Streeck, 1991 on diversified quality production). From this perspective, there seems to be little prospect for transformative change in the divided relationship between VET and HE. In this context, my book aims to test the common understanding of the institutional divide between VET and HE through adding an international-comparative dimension that also takes into account the Austrian and Swiss cases as well as an analysis of the impact of recent Europeanization processes on the division of VET and HE in all three countries. More generally, I combine the largely separate literatures on VET and HE with two strands in institutional theory: historical institutionalism, which has mostly looked at VET, and organizational institutionalism, which has prioritized HE (see Chapter 2).

The study relies on secondary literature, document analysis, and, most importantly, several dozen expert interviews carried out with key stakeholders in all three countries between 2010 and 2011. In this way it is possible to also identify and analyze recent developments, for example with regard to ongoing Europeanization processes. The empirical analysis focuses on permeability in terms of the rules, standards, and ideas that define the relationship between VET and HE – that is, institutional permeability – rather than the measurement of actually realized individual social mobility (see Chapter 3). Many of the institutional reforms analyzed in this book took place very recently and are not yet fully reflected in the official data sets provided by the national statistical agencies. However, in describing changes in institutional permeability between VET and HE, this book helps to build an institutional framework that will permit individual data to be analyzed in the future.

The key finding from my fieldwork in Austria, Germany, and Switzerland is that all three countries rely in part on hybridization – a specific combination of organizational and institutional elements from the two organizational fields of VET and HE – to introduce gradual institutional reforms within their long-established skill formation systems. However, due to specific factors in the respective national institutional contexts, hybridization is realized in distinct organizational forms: the dual study programs in Germany, the *berufsbildende höhere Schule* (BHS, higher vocational school with higher education entrance qualification) in Austria, and the Swiss organizational configuration of universities of applied sciences that directly build on dual apprenticeship training and a vocational baccalaureate (FHIVET).[8]

8 In this book the abbreviation "FHIVET" refers to the Swiss organizational configuration of universities of applied sciences (*Fachhochschulen*, FH) that directly build on initial voca-

Indeed, I found that these hybrid organizational forms – which signify a puzzling phenomenon considering conventional theories on skill formation in the DACH countries – represent a form of institutional permeability. However, they also signify a new premium sector, for example in terms of social prestige and labor market prospects. These hybrids are quite unique in international comparison. This is mainly because they build on a level of parity of esteem between VET and HE that cannot be found in more school-based VET systems like in France or VET systems that are more oriented towards "learning-on-the-job" like in the UK or the US. As the above-mentioned hybrid organizational forms are located at the nexus of the traditional organizational fields of VET and HE, their development reflects – and can provide a novel perspective on – institutional dynamics in both of these fields. In view of these observations, and in the context of the research question formulated above, this book seeks answers to a number of specific research puzzles: *Why did it come to hybridization at the nexus of VET and HE in Austria, Germany, and Switzerland and how have the respective hybrid organizational forms developed since their genesis? To what extent do the hybrid organizational forms differ in Austria, Germany, and Switzerland? What are the implications of hybridization for institutional permeability between VET and HE? And, finally, what is the impact of current European educational policies on such hybrid organizational solutions?*

This book is organized around these questions. Chapter 2 reviews the literature to provide arguments for the case selection – and also to highlight the research gap – and is subdivided in four themes: (a) the special position of Austria, Germany, and Switzerland in Europe, (b) the relationship between VET and HE in the DACH countries and elsewhere, (c) historical institutionalism, organizational institutionalism, and skill formation, and (d) skill formation in an era of internationalization and Europeanization. Chapter 3 presents the theoretical framework. In the first part of Chapter 3, I discuss three major approaches to explaining institutional stasis and change: the power explanation, the legitimation explanation, and the functional explanation. In the second and main part of Chapter 3, I combine historical institutionalism and organizational institutionalism to develop hypotheses with regard to gradual institutional change in the relationship between VET and HE. Chapter 4 describes the methods and data, including detailed information on the case study and comparative design, systematic process analysis, as well as the expert interviews.

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tional education and training (IVET) (see Chapter 8). The term "baccalaureate" refers to the maturity certificate that is acquired at the end of upper-secondary education and grants access to (some form of) HE. (The baccalaureate certificate is often referred to as *Abitur* in Germany and as *Matura* or *Maturität* in Austria and Switzerland.) The concept of "vocational baccalaureate" is elaborated in subsequent chapters.

Chapter 5 explores the history of Europeanization in the field of education. This chapter provides essential background information as each of the three country case studies also explores whether and to what extent European educational policies have affected the observed processes of hybridization at the nexus of VET and HE. However, this chapter also addresses readers who are interested in the history of European educational policy in the fields of VET and HE more generally. Part one of this chapter looks at the European-level educational policies from the post-World War II era to the signature of the Bologna process in 1999. Part two describes Europeanization from 1999 to 2010, when the European space for HE was officially proclaimed (see European Commission, 1999: 4; Budapest-Vienna Declaration, 2010: 1). In this book, current European educational policies, such as the EQF, are considered as an important test for the endurance of the institutional divide between VET and HE in Austria, Germany, and Switzerland.

The following chapters present the case studies on Germany (Chapter 6), Austria (Chapter 7), and Switzerland (Chapter 8). Given that small state corporatism (see Katzenstein, 1984, 2003) is one of the central theoretical approaches in this book, I begin with the German case, which represents a large country, and then move on to the two smaller countries, namely Austria and Switzerland.[9] All three country case studies are structured in the same way: an introduction to the national education system is followed by the selection and description of the respective hybrid organizational form. Next, the genesis (Phase I) and the further evolution (Phase II) of the hybrid organizational form are traced. The final part of each of the country-specific chapters examines the impact of European educational policies on hybridization. Chapter 6 also provides an historical account of the nexus of VET and HE in the German Democratic Republic (GDR). The comparative chapter (Chapter 9) focuses on explaining the similarities and differences in the historical developments observed in the three country cases. The comparative chapter also offers some inductive generalizations, or lessons learnt, from the process analyses of hybridization in Austria, Germany, and Switzerland. In Chapter 10 I summarize the main findings and reflect upon the hypotheses formulated in Chapter 3. Chapter 10 also offers some policy recommendations and an outlook on further research opportunities.

9 Given this ordering of the country-specific chapters, I sometimes list Germany before Austria and Switzerland when listing all three countries together. However, this does not imply that the German case plays a more important role in the analysis than the Austrian and the Swiss cases.

2. SKILL FORMATION in Austria, Germany, and Switzerland in an Era of Europeanization

This chapter first locates Austria, Germany, and Switzerland as similar systems within Europe and, thus, provides further arguments for the case selection. It then sketches relevant studies on vocational education and training and higher education and how this study aims to contribute to our understanding of the relationship between these two educational fields. Thirdly, it reviews how the two institutional perspectives that are mainly applied in this book, namely historical institutionalism and organizational institutionalism, have been applied to the study of education systems. Finally, this chapter looks at the existing literature on the impact of Europeanization processes on national education systems. This chapter only provides a preliminary overview of the key themes; more detailed accounts of the relevant literature on Austria, Germany, and Switzerland or on European educational policies follow in the subsequent chapters.

The Special Position of Austria, Germany, and Switzerland in Europe

In international comparison, the education systems of Austria, Germany, and Switzerland are relatively similar, for example due to their extensive systems of vocational education and training (VET). Especially at upper-secondary level, the proportion of students in vocational programs – compared to general education programs – is high relative to most other countries in Europe. To illustrate this point, Table 1 shows the distribution of upper-secondary students by program type (general versus vocational) in Austria, Germany, Switzerland, and – to provide a comparison – the equivalent distribution in the UK as an ideal type for the liberal market model of vocational training.[10]

A variety of general typologies describe national HE systems (see, e.g., Clark, 1983; Teichler, 1990) as well as national VET systems (see, e.g., Greinert, 1999).[11] In these typologies, Germany, Austria, and Switzerland usually fall under the same category. Thus, taking the example of VET and once again referring to the typology by Greinert (1999), all three represent dual-corporatist models due to their historically evolved dual apprenticeship

10 See, for instance, Greinert (2005) and Powell, Bernhard, and Graf (2012b) for more details on key specificities of VET in the UK. The relationship between vocational and general education programs is discussed in Chapters 6–8. Furthermore, Appendix 11.4 sets out the International Standard Classification of Education (ISCED) referred to in Table 1.

11 See Powell, Graf, Bernhard et al. (2012) for a review of these typologies.

Table 1: Distribution of upper-secondary students (ISCED 3) by program type (general or vocational) in Austria (AT), Germany (DE), Switzerland (CH), and the UK, 2009

	AT	DE	CH	UK
General	22.7	46.8	34.5	69.5
Vocational	77.3	53.2	65.5	30.5

Source: Eurydice (2012: 74), based on Eurostat data extracted in July 2011

training systems.[12] In addition, Austria, Germany, Switzerland are all classified as collective skill systems (Busemeyer and Trampusch, 2012). In this sense, the main characteristic of their (dual) VET systems "is that they are *collectively organized*, because firms, intermediary associations, and the state cooperate in the process of skill formation in initial vocational training" (Busemeyer and Trampusch, 2012: 4, emphasis in original; see also Thelen, 2006: 136 on collectivist skill formation).

Several more studies confirm that Germany, Austria, and Switzerland can be regarded as most similar systems in European comparison (e.g., Rothe, 2001; Trampusch, 2010a; Trampusch and Busemeyer, 2011; Ebner, Graf, and Nikolai, 2013; Neß and Kimmig, 2008 on Germany and Austria; Imdorf, Granato, Moreau et al., 2010 on Switzerland and Germany). For example, the three countries share crucial characteristics when it comes to transitions within the education system as well as from there into the labor market. Broadly speaking, students are sorted into a multi-tiered secondary school system at a very early age, where the respective tiers strongly condition later transitions into either VET or HE and, with that, into labor markets (see, e.g., Allmendinger, 1989; Shavit and Müller, 2000b). Moreover, the three countries are relatively similar with regard to the institutional linkages between VET, HE, and the national labor market. For example, the vocational principle (*Berufsprinzip*) has played a pivotal role as a central ideal shaping the institutional arrangements at the education-economy nexus (e.g., Kraus, 2007; Deißinger, 1994). However, few studies compare aspects of skill formation in Austria, Germany, and Switzerland from an historical-institutional perspective (but on VET see Rothe, 2001; Busemeyer and Trampusch, 2012).

In European comparison, the two countries that come closest to Germany, Austria, and Switzerland in terms of their (dual) VET systems are Denmark and the Netherlands. However, upon closer inspection, the Danish and Dutch cases differ in notable ways from the DACH countries. For example, the Danish VET system is, amongst other things, characterized by a training levy, a form of school-based training tailored to specific vocations that is to

12 In Greinert's typology, the other types are the state-regulated bureaucratic model (e.g., France) and the afore-mentioned liberal market economy model (e.g., the UK) (Greinert, 1999) (see also Chapter 1).

be completed prior to apprenticeship training (see, e.g., Ebner, 2009: 6),[13] as well as by more flexible certification and accreditation procedures (see, e.g., Nelson, 2012: 179).[14] In the Netherlands, public institutions and the state play a very strong role in the VET system, for instance in the governance of the so-called regional training centers as well as school-based VET more generally (see, e.g., Andersen and Nijhuis, 2012). Thus, both the Danish and the Dutch cases present a more blurred picture when compared to the dual apprenticeship training systems in Austria, Germany, and Switzerland.

The Relationship between VET and HE in the DACH Countries and Elsewhere

As was noted in Chapter 1, Austria, Germany, and Switzerland also share another common feature, namely the presence of a relatively rigid institutional divide between VET and HE. Interestingly, this divide is also reflected in the research community. That is, research on VET and HE often remain isolated from each other. Especially in the cases of Germany, Austria, and Switzerland, the majority of scientists specialize in studying either the VET system *or* the HE system. Institutional dynamics in the linkage between VET and HE are rarely studied. Some notable exceptions include Young and Raffe (1998) on strategies for achieving parity of esteem between academic education and vocational training at upper-secondary level in European education systems, Raffe (2003) on a number of theoretically possible ways in which academic education and vocational training can be "unified," and Dunkel, Le Mouillour, and Teichler (2009) on the differentiation and diversification of VET and HE in Europe.[15] A few other studies focus on micro level aspects of the relationship between VET and HE, such as the effects of multiple transitions between the vocational- and higher-education sectors (Harris and Rainey, 2009; Backes-Gellner and Tuor, 2010) or the mediation of individual-level preferences for academic and vocational training in various national institutional contexts (Shavit and Müller, 2000b; Hoelscher, Hayward, Ertl et al., 2008; Busemeyer, Cattaneo, and Wolter, 2010; Busemeyer and Jensen, 2012). However, the research design I adopt differs from the aforementioned studies as it takes as its starting point three relatively similar countries – whose VET systems are characterized by dual apprenticeship training – in order to compare them in consideration of historical institutional changes in the relationship between VET and HE.

13 Ebner (2013: 207) distinguishes between two types of dual apprenticeship training systems: the "German type" (Germany, Austria, and Switzerland), which features a high degree of standardization, and the "Danish type," which is less standardized. Moreover, the "German type" produces more vocational specificity than the "Danish type."

14 See also Campbell and Pederson (2005) on the mix of coordinated market economy and liberal market economy elements in the Danish political economy.

15 Please refer to Section 3.3.4 for extended discussion.

Another strand of literature looks at the relationship between VET and HE in the Anglophone world (mainly Australia, the UK, and the US) (e.g., Moodie, 2008). For example, Garrod and Macfarlane (2009) explore the modification of boundaries between different types of HE and further (vocational) education at post-secondary level (e.g., universities and community-based colleges). However, these "Anglophone" studies examine education systems in which VET plays a different role and where – especially at upper-secondary level – VET usually does not enjoy the kind of reputation it does in Switzerland, Germany, or Austria.[16] Furthermore, work-based learning in countries like Australia or the UK is usually organized at a more individual level (e.g., through individual learning plans) (Boud and Solomon, 2001) than is the case in the nationally standardized VET systems in the DACH countries.

In the DACH countries, a growing body of literature is analyzing the ways in which people with initial VET certificates from upper-secondary level may gain access to HE (universities and universities of applied sciences) (e.g., Hillmert and Jacob, 2003; Wolter, 2008; Freitag, 2009; KMK, 2010a; Freitag, Hartmann, Loroff et al., 2011; BIBB, 2011b: 390–400). However, these studies often focus on permeability as a unidirectional process. That is, many of these studies adopt a specific perspective on permeability, namely how people who have completed a VET program can best gain access to HE. Such a specific emphasis can already limit the view on the range of possible forms of institutional permeability between VET and HE (see also Buhr, Freitag, Hartmann et al., 2008). In contrast, the focus here is on hybridization as a specific form of institutional permeability between VET and HE in which elements from VET and HE are integrated on equal terms (see Section 3.3.4). The topic of hybridization at the nexus of VET and HE, which presents the main research gap, will be introduced in detail in Chapter 3.

Historical Institutionalism, Organizational Institutionalism, and Skill Formation

In this book I combine historical institutionalism and organizational institutionalism in order to analyze institutional changes and, specifically, hybridization processes at the nexus of VET and HE. The reasons for selecting these two approaches in neo-institutional theory are set out in Chapter 3. However, it should already be noted that the combination of these two types of institutional analysis helps to integrate a strand of literature that has focused more on VET, namely historical institutionalism, with one that has been more

16 Due to the strong position of VET in the DACH countries, some occupations that are part of the VET portfolio at upper-secondary level in these countries belong to HE in other countries (e.g., Banschbach, 2007: 66 on the German case).

concerned with HE, namely organizational institutionalism. Historical institutionalism, on the one hand, has often been concerned with the role of VET in explaining divergences between national models of capitalism (e.g., Estevez-Abe, Iversen, and Soskice, 2001; Streeck, 1991; Thelen, 2004; Culpepper, 2007). Organizational institutionalism, on the other hand, has mostly focused on general, academic education at school and HE levels (e.g., Meyer, 1977; Krücken and Meier, 2006; Musselin, 2006). Reasons for the differences in these respective thematic foci include that organizational institutionalists are often more interested in the role of the state in education systems and that the state plays an even more dominant role in general and academic education than in VET. In contrast, when historical institutionalists analyze skill formation, they tend to be especially interested in the role of firms (or employer associations) and trade unions (or employee associations), and in the DACH countries these are usually more directly involved in VET than in HE.

There have recently been a few attempts to integrate HE into the Varieties of Capitalism (VoC) framework (see also Section 3.3.1). Thus, the VoC approach can be applied to analyze how universities react differently to ongoing internationalization processes due to the embedding of HE systems as complementary subsystems within national models of capitalism (Graf, 2008; Graf, 2009).[17] According to Leuze (2010), in Germany the coupling between HE and the graduate labor market is tighter than in the British case. This tight coupling relies on a highly stratified school system and a weakly stratified HE system, which in combination means that transitions to graduate employment in Germany are smoother (due to favorable matching processes) than in the UK – but also more elitist (Leuze, 2010: 242). Furthermore, the way HE is financed in Germany and the UK corresponds to the distinct logics of the respective types of capitalism (Kohlrausch and Leuze, 2007).

Within the framework of organizational institutionalism, it is common to analyze the university itself as an organizational actor. According to Krücken and Meier (2006: 4), four elements underpin an organizational concept of the university: "organizational accountability, mainly through the establishment of evaluation procedures; the tendency towards defining 'own' organizational goals through mission statements; the ongoing elaboration and expansion of

17 Within a rapidly expanding global market for HE, internationalization strategies have been developed at university, national, as well as European levels – with the aim of increasing the competitiveness of HE institutions. Yet, institutional settings prevailing in national models of capitalism motivate distinct national approaches with regard to the internationalization of HE systems. The developmental trajectories in the internationalization of universities in both countries are influenced by and reflect the specific mode of coordination in the respective HE system and the national model of capitalism more generally. For example, in the British case the relations between the various actors involved in the internationalization of universities are based largely on market coordination. In contrast, German universities rely more on strategic interactions between the various organizational actors in the HE system (Graf, 2009).

formal technical structures around these goals; and the transformation of university management into a profession." The perspective of organizational institutionalism enables an analysis of the meso level of organizations while taking into account the regulative, normative, and cultural-cognitive dimensions of institutions (e.g., Meyer and Rowan, 2006). However, organizational institutionalism has rarely been applied to the field of VET (but see Powell, Bernhard, and Graf, 2012b).

In summary, by applying organizational institutionalism also to VET, and by applying historical institutionalism also to HE, and both paradigms to the linkage between VET and HE, this book aims to provide an innovative perspective on skill formation in the DACH countries.

Skill Formation in an Era of Internationalization and Europeanization

Furthermore, this study contributes to contemporary research on Europe as it traces the impact of current Europeanization processes on the relationship between VET and HE in Austria, Germany, and Switzerland. Several studies examine international governance in the field of education (see, e.g., Martens, Rusconi, and Leuze, 2007; Scherrer, 2007 on the General Agreement on Trade in Services; Jakobi, Martens, and Wolf, 2009; Paradeise, Reale, Bleiklie et al., 2009). A number of recently edited volumes provide international perspectives on HE (e.g., Huisman and Wende, 2005; Kehm, Huisman, and Stensaker, 2009; Forest and Altbach, 2011) and VET (Deißinger, 2001a; Mayer and Solga, 2008; Bosch and Charest, 2010). It is worth noting that there tends to be more research activity on the Europeanization of HE systems and the Bologna process (e.g., Reinalda and Kulesza, 2006; Krücken, 2007; Schriewer, 2007; Alesi, Bürger, Kehm et al., 2005; Teichler, 2007; Witte, Wende, and Huisman, 2008; Serrano-Velarde, 2009; Musselin, 2009) than on the Europeanization of VET and the Copenhagen process (e.g., Loebe and Severing, 2010; Phillips and Ertl, 2003; Baron, 2007).[18] An underlying motivation for this study is that a combination of the research literatures on VET and HE as well as on the Copenhagen process and the Bologna process is likely to yield new insights into skill formation in Austria, Germany, and Switzerland. Only very few studies look at Bologna and Copenhagen in combination (but see, e.g., Balzer and Rusconi, 2007; Powell, Bernhard, and Graf, 2012a). While not intended by policy-makers, it can be assumed that the Bologna process for HE is having an indirect impact on VET and that the Copenhagen process for VET is indirectly affecting HE. To my knowledge, no studies exist on the latter (i.e., the unintended impact of the Copenhagen process on HE). This is partly due to the fact that the Copenha-

18 More generally, reviewing current trends in educational sociology, Solga and Becker (2012: 30) note that processes of internationalization and, as a result, interdependent developments in national education systems are rarely studied. See Chapter 5 for more details.

gen process is still at an earlier stage of implementation.[19] Yet, a few analyses have looked at the indirect influence the Bologna process has on VET (e.g., Dobischat, Fischell, and Rosendahl, 2008; Werner, Hollmann, and Schmidt, 2008). For instance, Räbiger (2007) examines the integration of vocational and higher education as a dimension of the Bologna reform. Hippach-Schneider, Weigel, and Gonon (2011: 25) carried out several case studies of the recruitment behavior of large firms in Germany, Switzerland, and the UK – and do not find increased competition between job applicants with a VET certificate and those with a Bachelor degree.

As both the Bologna and the Copenhagen process are very recent European policies, their role in shaping processes of institutional change raises numerous questions, including about their impact on the relationship between VET and HE in the DACH countries. Addressing this new research field to some extent requires an explorative approach and also explains my choice of expert interviews with key stakeholders. The next chapter describes the theoretical framework that offers an integrated perspective on VET and HE.

19 As was mentioned earlier, the Bologna Declaration was signed in 1999 and the Copenhagen Declaration in 2002.

3. THEORETICAL FRAMEWORK: Analyzing Hybridization at the Nexus of Vocational Education and Training and Higher Education

The goal of this chapter is to describe a theoretical framework for the analysis of institutional stability and change in the relationship between vocational education and training (VET) and higher education (HE) in the DACH countries. The chapter begins with my baseline definition of "institution" and "organization." Next, in Part I, I conceptualize the institutional divide between VET and HE. In this context, I refer to three major approaches to the explanation of institutional stasis and change (power explanation, legitimation explanation, and functional explanation), which also serves to illustrate the economic, political, and social embeddedness of the educational schism between VET and HE in Austria, Germany, and Switzerland. The discussion in Part I suggests that substantial change in the institutional relationship between VET and HE is unlikely to happen. However, in Part II I argue that a combination of historical institutionalism and organizational institutionalism can account for the processes of hybridization observed during the fieldwork phases in Austria, Germany, and Switzerland. That is, I refer to historical institutionalism and organizational institutionalism to derive hypotheses with regard to the hybridization processes in the DACH countries, but also with regard to country-level differences and, finally, the respective impact of current Europeanization processes. Furthermore, I define and operationalize my concept of hybridization and contrast it with non-hybrid linkages between VET and HE in Austria, Germany, and Switzerland.

3.1 Defining Institutions and Organizations

Both the concept of institution and the concept of organization contain an element of structure, which means that the distinction between these two concepts is far from trivial (see Bluhm, 2005: 267). In this section, I define both concepts.

As a baseline definition of institution, I refer to the one by Scott (2008: 48) that is widely used by theorists from different institutional paradigms: "Institutions are comprised of regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life." According to Scott (1995), the *regulative* dimension of institutions refers to coercive mechanisms, including elabo-

rate sets of policies and rules. In the *normative* dimension, the focus is on standards that serve to realize particular goals. Finally, the *cultural-cognitive* dimension of institutions is associated with the socially mediated construction of a common framework through which meaning is given.[20] Correspondingly, *institutionalization* refers to the development over time of cultural-cognitive, normative, and regulative pillars "capable of providing meaning and stability to social behavior" (Scott, 1995). Thus, in order to be able to analyze how institutions arise and develop, it is important to understand how they are carried by cultural-cognitive, normative, or regulative conceptions and at which levels they operate.

I argue that this understanding of institutions is broad enough to be compatible not only with organizational institutionalism, which focuses on the role of institutions as granting legitimacy to given social conditions (e.g., Meyer, 1977), but also with historical institutionalism, which understands institutions mainly as "distributional instruments" that confer power differentially to political actors (Mahoney and Thelen, 2010a: 7–8; see also Hall, 2010; Skocpol, 1995). The concept of institution is closely related to that of *institutional order* or *institutional logic*. According to Friedland and Alford (1991: 248), each institutional order has a central logic, or "a set of material practices and symbolic constructions – which constitutes its organizing principles and which is available to organizations and individuals to elaborate."

This already indicates that organizations are embedded within specific institutional logics. Aldrich and Ruef (2006: 4–6) outline three dimensions that define organizations: (a) goal direction, (b) boundary maintenance, and (c) activity systems or socially constructed routines (see also Aldrich, 1979; Hannan and Carroll, 1995). Goal direction (a) basically means that organizations are purposive systems (Aldrich and Ruef, 2006: 4) that do not just follow some random path. The respective goals or purposes can, but need not, be explicitly codified (see Aldrich and Ruef, 2006: 5). In fact, organizations often simultaneously integrate some of their goals explicitly and others rather implicitly. Organizations are maintained (b) through the control of socially constructed boundaries (Aldrich and Ruef, 2006: 5). This also implies a distinction between members and non-members (see Weber, 1978). Without such boundaries, an organization rapidly loses its capacity for goal orientation. An activity system (c) refers to a set of socially constructed routines that guide behavior (Aldrich and Ruef, 2006: 6). Here, Aldrich and Ruef (2006) follow Levitt and March (1988) in using "routines" as a generic term including "forms, rules, procedures, conventions, strategies, and technologies around which organizations are constructed and through which they operate" (Levitt and March, 1988: 320). Crucially, organizations are assumed

20 While the distinction between the cultural-cognitive and normative institutional dimensions carries analytical strength, in practice it often proves very difficult to disentangle the two.

to encompass internal practices and procedures that are relatively stable at least in the short run.

At a "higher level" the concept of *organizational field* refers to the totality of actors in an institutional area, such as VET or HE. This perspective emphasizes the interrelation of organizations and the multiplicity of networks in which each operates. In other words, the term organizational field refers to those organizations that together constitute a recognized area of institutional life (DiMaggio and Powell, 1991a: 64f.; see also Aldrich, 1999: 301 on the similar concept of organizational community). In the next section I distinguish between the two organizational fields of VET and HE, each of which displays a distinct institutional logic and constitutes a recognized area of institutional life.

3.2 PART I: Exploring the Rigidity of the Institutional Divide between Vocational Education and Training (VET) and Higher Education (HE)

As was mentioned earlier, the literature on education systems generally distinguishes between VET and HE. Firstly, when I speak of VET without further specification, I refer to both VET at upper-secondary level (e.g., dual apprenticeship training and school-based VET) and higher VET at post-secondary level (e.g., technician, master craftsman). In the following, I sometimes refer to the former as initial VET (or IVET)[21] and to the latter as higher VET (or ISCED 5B).[22] Often when I use the term initial VET, the emphasis is on the highest segment of VET programs at upper-secondary level (e.g., bank clerk, industrial clerk, or information technology specialist), since it is at this level that institutional changes in the relationship between VET and HE are likely to have the most direct impact.[23] Secondly, when I speak of HE, I primarily refer to academic education at post-secondary level offered in universities and other institutes of HE (or ISCED 5A).[24] However, academic education at upper-secondary educational level (e.g., general academic schools) is also included in the wider field of HE given that it is designed to prepare students for entry into post-secondary academic education.

21 The German translation for initial vocational education and training is "*berufliche Grundbildung*."

22 See Appendix 11.4 for details on the ISCED classification.

23 This point is further elaborated in subsequent chapters.

24 The term "tertiary education" is formally equivalent to the term "post-secondary education." However, in the German-speaking context and in this book the connotation attached to the term "tertiary education" is closer to HE than to higher VET.

Table 2 provides a stylized overview of a number of key organizational forms in the fields of VET and HE (or academic) education that can be found in all three DACH countries. The major organizational forms in the VET field are dual apprenticeship and full-time school-based VET at upper-secondary level and higher VET at post-secondary level. In the HE field, these are universities and universities of applied sciences at post-secondary level, as well as academic secondary schools at upper-secondary level. (In fact, as I will show in Chapter 8, in the special Swiss case the universities of applied sciences are not only part of the HE field but also of the VET field.) Table 2 does not provide a complete list of relevant organizational forms but rather serves to provide a first overview that will be extended in the country-specific chapters.

Table 2: Ideal-typical illustration of the VET and HE fields in Austria, Germany, and Switzerland

	VET field		**HE field**	
Post-secondary level	Higher VET		University of applied sciences	University
Upper-secondary level	Dual apprenticeship training	School-based VET	Academic upper-secondary school	

Source: Author's illustration

This initial schematic overview serves to delineate the two distinct fields of VET and HE. Writing on the German case, Baethge (2006a) has argued that vocational training and academic education are separated by an "educational schism." Table 3 below provides an example of an empirical application of the regulative, normative, and cultural-cognitive dimensions of institutions to this schism. More generally, here the key level of analysis is the meso level, which focuses on organizations and organizational fields (see Chapter 4 for more information on the levels of analysis). The table illustrates that the institutional divide between VET and HE runs deeper than superficial discrepancies at the level of bureaucratic etiquette and formal labels.

Table 3 shows that in each of the two fields we find distinct institutional logics, which, in turn, hinder institutional permeability between the two fields (the following three subsections discuss some of the central elements in this table in more detail).[25] This institutional separation between VET and HE

25 However, it should be noted that the educational schism presented in Table 3 is a highly stylized description. Thus, while there are many organizational forms that fit neatly into either the VET field or the HE field, there is still variance within each of these fields. For example, traditional research universities are more typical of the HE field than technical

Table 3: Stylized description of the institutional divide between VET and HE

	VET field Here: dual apprenticeship training	**HE field** Here: universities and academic upper-secondary schools
Cultural-cognitive dimension		
Dominant goal	Vocational competence	Educated personality
Normative dimension		
Instruction principle	Practice is integrated (combination of work and learning)	Distance to practice (learning in separate organizations)
Reference point for curriculum	Labor market; economy's demand for qualifications	Canon of representative and systematic knowledge; orientation towards science
Regulative dimension		
Governance	Corporatist self-governance (chambers) on the basis of federal regulations	State-run (*Länder*)*
Financing	Shared private and public	Public
Status of learner	Employee (apprentice with work contract)	Student
Staff	Semi- to un-professional private work contracts, staff (partly) trained in workplace	Professionalized; public service; staff trained in academia

* *Länder* = federal states

Source: Baethge (2006a: appendix); adapted, translated, and organized along the three institutional dimensions by LG and team INVEST (see acknowledgements)

as well as its historical evolution is strongly intertwined with many aspects of society in Germany, Austria, and Switzerland. According to Baethge (2006a: 13–16), in Germany the various 20th-century reform efforts to dissolve the educational schism failed precisely because this schism is deeply rooted both in the model of diversified quality production as well as the particular social structure of society.[26]

In the following three sections I explore this educational schism in more detail through the lens of institutional theory. In this context, I argue that the institutional divide between VET and HE is linked to different key aspects of society and connected lines of argument, namely (A) *conflicts, status groups, and status reproduction*, (B) *culture, organizations, and legitimation*, and (C) *institutional complementarities, firms, and efficiency*. (A) can be called Weberian in that it is concerned with how institutions in VET and HE serve conflicting status groups with varying power resources to reproduce social status or achieve upward mobility. (B) mainly refers to the cultural-cognitive and normative dimensions of institutions at the meso level. Amongst other

universities (*technische Universitäten*) given that the latter in some cases have links to the VET field.

26 On diversified quality production, see Streeck (1991).

things, this aspect enables us to analyze how organizations within the organizational fields of VET and HE strive for legitimacy in relation to cultural-cognitive and normative scripts in their institutional environment. I derive (C) from a Varieties of Capitalism (VoC) approach to skill regimes (e.g., Hall and Soskice, 2001), focusing on the role of firms and efficiency considerations, as well as institutional complementarities between national skill regimes and closely related institutional spheres (especially industrial relations, labor market, and welfare state policies).

Table 4 by Mahoney (2000: 517) lays out a typology of explanations of institutional reproduction and change that is derived from the various theoretical approaches within institutional analysis.[27] In the following three sections I argue that lines of argument (A), (B), and (C) are possible illustrations of the power explanation, legitimation explanation, and functional explanations (see Table 4), respectively. These three types of explanations offer different perspectives on institutional change and reproduction. While all of them represent modes of institutionalist thought, each of them builds on a number of distinct premises to form a coherent theoretical research program.

Table 4: Typology of explanations for institutional dynamics

	Power Explanation	**Legitimation explanation**	**Functional explanation**
Mechanism of reproduction	Institution is supported by an elite group of actors	Institution is morally just or appropriate	Institution serves a function for an overall system
Mechanism of change	Weakening of elites and strengthening of subordinate groups	Changes in actors' values or subjective beliefs	Exogenous shock that transforms system needs

Source: Reduced and slightly adapted version of a table by Mahoney (2000: 517); see, e.g., also Collins (1994) or Djelic and Quack (2003: 15–34) or Campbell (2004: 11) for (roughly similar) typologies of institutional arguments

Mahoney (2000) includes a fourth type, namely the "utilitarian explanation." This explanation focuses on actors as "perfectly" informed agents who choose between institutions on the basis of rational cost-benefit assessments. However, the utilitarian perspective seems least compatible with the definition of institutions I apply in this study, which also considers the regulative, normative, and cultural-cognitive embeddedness of agency.

In the remainder of Part I of Chapter 3 I describe in more detail possible accounts of a power, a legitimation, and a functional explanation of the institutional divide between VET and HE linked to lines of argument (A), (B), and (C), respectively. The three accounts do not reflect the only possible interpretations of these three broad explanations for institutional dynamics,

27 For other helpful reviews of the major schools in institutional analysis, see, e.g., Scott (2008), Campbell (2004), Schimank (2007), or Greenwood, Oliver, Sahlin et al. (2008).

but more generally serve to better illustrate the embeddedness of the institutional divide between VET and HE in the DACH countries. In fact, in Part II of this chapter the perspective changes as it provides theoretical expectations – based on a mix of the three types of explanations presented in Table 4 – of why hybridization at the nexus of VET and HE is nevertheless feasible. The reader will also note that the functional explanation is illustrated in some more detail than the other two types of explanations. This is because it will serve as the primary foil for comparison for the development of the main theoretical framework in Part II of this chapter (Section 3.3).

3.2.1 Status Groups and Stratification (Power Explanation)

A basic assumption underlying most of the studies presented in this section is that stratification patterns in the education system are connected to the interests and influences of the various status groups in a given society. In the following I refer to some of the (rare) work that has looked at the relationship between vocational and academic educational tracks from this perspective.

In contrast to the Marxist sociology of education, which centers on capitalist markets and the class system in its analysis of the (re-)production of social inequalities (see, e.g., Bowles and Gintis, 1976), the Weberian sociology of education invokes status groups as the key drivers of stratification processes (see Kreckel, 2009 [1982]: 152; Weber, 2009 [1921]). In this context, "[a]n 'occupational group' is also a status group. For normally, it successfully claims social honor only by virtue of the special style of life which may be determined by it" (Weber, 2008 [1946]: 123).[28] From this perspective, the historically evolved paradigm of segregation in the German, Austrian, and Swiss education systems can be seen to derive largely from the legacy of the professions (*Berufsstände*) and the vocational principle (*Berufsprinzip*). Here, "vocational principle" refers, for example, to the high degree to which curricula prepare people for specific occupations and predetermine career paths.[29] In the DACH countries the vocational principle plays a pivotal role in structuring the transitions within the education system and

28 According to Parkin (2009 [1983]: 165), Weber's concept of social closure is particularly suited to analyzing the degree of openness of social relationships, since it offers an analytical perspective on the strategies social actors use to take advantage of changing material conditions. In his 1971 study, Collins shows that "Weberian" conflict theory of stratification accounts to a greater extent for rising educational requirements for employment in America than technical-functional explanations (Collins, 1971: 1016). Archer (1989: 244), on the other hand, criticizes neo-Weberian "credentialists" like Collins for their neglect of the system level.

29 For Kerckhoff (1995), "vocational specificity" can be seen as a yardstick against which to evaluate a system's capacity to structure the available variety of curricula, credentials, and career paths.

labor market (see, e.g., Deißinger, 1994, 2001b; Kraus, 2007). That is, in these countries the existence of a great number of well-defined occupations and occupational fields accounts for a highly segmented labor market. Such a highly segmented labor market can, in turn, be assumed to be complementary to a stratified secondary education system. The sociology of education addresses such issues in the literature on tracking, for example between vocational and academic programs and the respective educational pathways. With regard to the role of vocational education in the process of occupational attainment, many scholars argue that tracking is simply a diversion of working-class children away from HE. Tracking then serves as a mechanism for inter-generational reproduction of social inequality.[30] This is especially relevant in the case of the DACH countries, considering that here students are sorted into a multi-tiered secondary school system at a very early age (see Allmendinger, 1989; Shavit and Müller, 2000a).

In this context, the distinction made by Maurice, Sellier, and Silvestre (1986) between "qualificational spaces" and "organizational spaces" is interesting to note (see also Marsden, 1990) – even if it does not directly refer to the power explanations presented in this section. Thus, the German education system is an example of a qualificational space, as young people usually leave the system with specific skills and a well-defined occupational identity. In other words, the German space is segmented by vocational qualifications. France, on the other hand, is presented as an example of an organizational space, as education in France is rather academic or general, whereby specific skills are usually developed on the job (Maurice, Sellier, and Silvestre, 1986; see also Müller and Shavit, 1998: 503f.; Kerckhoff, 1995: 335). The DACH countries can be considered "ideal" examples of a type of education-work relationship that encourages specialization well before labor market entry (i.e., they represent qualificational spaces). In these countries, specialized educational credentials provide the "capacity to structure" the flow of students into the labor market. At the same time, being standardized nationally, they provide the opportunity for orderly career patterns that are not wholly dependent on internal labor markets (Kerckhoff, 1995: 341). That is, as vocational qualifications are highly standardized, workers can move relatively freely between firms (which belong to the same industry) (Shavit and Müller, 2000b: 36).[31]

Shavit and Müller (2000b: 36) find that in qualificational spaces, vocational training has a strong diversionary effect, as workers profit most from

30 Human capital theorists, on the other hand, often subscribe to the view that vocational education improves prospects in the labor market as well as access to desirable occupations (e.g., Becker, 1975).

31 In this context, Allmendinger (1989: 231) differentiates between the existence of equal educational standards nationwide and the selection procedures within the educational system, i.e., between standardization and stratification.

their specific skills if they remain in their specific occupation. This hinders them from advancing to potentially more prestigious or better-paid occupations. Generally speaking, the most prestigious occupations tend to be reserved for people with qualifications from HE institutions (Shavit and Müller, 2000b: 36–37). However, Shavit and Müller also argue that for vocationally trained people both the diversion effect (referring to the restriction of occupational opportunities) and the safety net effect (referring to the chances of finding and securing decent work) are stronger in qualificational spaces compared to organizational spaces. In fact, they argue that in qualificational spaces these two effects can be considered as two sides of the same coin (Shavit and Müller, 2000b: 45).

More generally, Shavit and Müller (2000b: 34) find that the three key institutional variables that matter as far as the education system is concerned are: (1) the degree to which the education system is stratified (Germany and Switzerland are examples of highly stratified systems); (2) whether vocational training is tightly linked to employers (like in Germany, Austria, and Switzerland); and (3) whether vocational education prepares people for specific (e.g., in the DACH countries) or rather for general skills (e.g., in the UK, France, and the US). On the side of the labor market, crucial features defining young people's labor market entry include the type of labor market regulations and the nature of employment sustaining policies (Bukodi, Ebralidze, Schmelzer et al., 2009). At a more general level, Kerckhoff (1995: 325) uses the metaphor of the "sorting machine" to refer to the sum of mechanisms in the education system and the labor market that channel people into occupational positions within the stratification system.

A key message from the studies presented in this section is that the education systems in Austria, Germany, and Switzerland provide individuals with a well-defined occupational identity and are stratified along status group lines. From this perspective, in the DACH countries *the VET field and the HE field represent distinct institutional realms in which different status groups maintain their influence, the educational schism between VET and HE being one of the main illustrations for this. Hence, from this point of view, it appears unlikely that the educational schism will dissolve in the near future (Stasis Hypothesis I).*

After this power explanation, the next account of the institutional divide between VET and HE focuses on the legitimacy this separation is granted in Austria, Germany, and Switzerland.

3.2.2 Education as a Legitimation System (Legitimation Explanation)

Sociological and organizational neo-institutionalists are particularly interested in how institutions grant legitimacy to social phenomena. This type of

institutionalism focuses on the cultural-cognitive and normative dimension of institutions (see Dobbin, 1994; Greenwood, Oliver, Sahlin et al., 2008 for comprehensive reviews). In this section I focus on early work by John W. Meyer and colleagues on education as a legitimation system (e.g., Meyer, 1977). The discussion of organizational institutionalism will subsequently be broadened.

Meyer and Rowan (1992) find that institutionalized rules act as powerful myths and beliefs built into modern society and as ways of interpreting the world and legitimizing organizational structures. While conventional theories of allocation consider the institutional characteristics of education systems, these theories have mostly focused on their consequences for individuals. However, education can change people's lives (educated and "uneducated" alike) quite independently of their individual educational experiences. In this context, the basic argument is that education creates realities for everyone and at the same time serves to legitimize these realities. In this way, education systems create knowledge categories as well as personnel categories. Education creates roles in society and allocates personnel to them in a more or less authoritative way. Education systems serve to (re)structure societies as they define the rights and duties of individuals as well as social categories like elite status (Meyer, 1977).

Applying such a conception, education systems can be considered to be "theories of socialization institutionalized as rules at the collective level" (Meyer, 1977: 65). Hence, education constitutes "a network of rules creating public classifications of persons and knowledge. It defines which individuals belong to these categories and possess the appropriate knowledge. And it defines which persons have access to valued positions in society" (Meyer, 1977: 55). These rules of educational allocation are a core element within societies' institutional ideology (Meyer, 1977: 72). In other words, education systems "build into society certain rules which actors take for granted, know others take for granted, and incorporate in their decisions and actions" (Meyer, 1977: 65). To give an example, in the DACH countries many actors take it for granted that early tracking supports students according to their individual talents and aptitudes by sorting them into an "appropriate" educational track. Another example is the meritocratic principle, which in modern education systems often serves as a legitimation device for defining individuals' chances within the education system (see Solga, 2009 [2005]).

In terms of research strategy, it follows that it is essential to specify the cultural-cognitive and normative scripts on which a stratification pattern largely builds its legitimacy. Following neo-institutional terminology, the divide between VET and HE can be regarded as highly institutionalized in the sense that most actors in the DACH countries take it for granted (see, e.g., Walgenbach, 1995: 271 on the concept of institutionalization). From this perspective, the allocation and stratification processes that go along with this

divide are highly legitimized. Furthermore, a reform of the divide between VET and HE would also require adjustments in other institutional spheres – as this divide derives its legitimacy not only from within the education system but also from structures of the broader institutional environment (e.g., those related to the labor market). Depending on the particular case, this, in turn, would either impede substantive change, but certainly limit the range of reforms likely to be successfully implemented. From the theoretical perspective presented in this section, *it would follow that the educational schism between VET and HE is only likely to diminish if the legitimacy of the more general rules of educational allocation, which are built into the larger institutional system of the DACH countries, are changed in one way or another. However, from this perspective on education as a legitimation system it is difficult to develop expectations of how such a change could actually come about (Stasis Hypothesis II)*.

The third and final account of the deep socio-economic embeddedness of the institutional divide between VET and HE in the DACH countries is based on the Varieties of Capitalism approach and its concept of institutional complementarity.

3.2.3 Varieties of Capitalism and Institutional Complementarities (Functional Explanation)

This section is concerned with the socio-economic environment in which national education systems are embedded, as seen from the perspective of the Varieties of Capitalism (VoC) approach. The debate on national models of capitalism is far from being settled, and there is no uniform typology. Yet, what most of the work in this field shares is a view of national models of capitalism as more or less integrated wholes characterized by distinctive institutional arrangements in which the different parts work together in ways that are mutually reinforcing (Thelen, 2004: 3; Culpepper and Thelen, 2008: 25). Within the VoC framework, skill formation and skill specificity play a central role in explaining divergent national models of capitalism. More specifically, VET lies at the core of VoC theory: In the VoC paradigm, it is sometimes argued that VET systems provide a central basis for divergent institutional outcomes of modern political economies (see, e.g., Culpepper and Thelen, 2008: 23; Thelen, 2004: 8). That is, from an historical VoC perspective, the education system is seen as one of the core factors contributing to the particular evolution of a national model of capitalism.

Hall and Soskice (2001) introduced an approach that has made an influential contribution to the VoC literature. They see the political economy as

constituted by a set of highly interdependent spheres.[32] VoC is not a theory about individual institutions, but rather about constellations of institutions. Hall and Soskice (2001: 7) consider industrial relations (firm-employees relations), VET, corporate governance, and inter-firm relations as major institutional spheres. Consequently, VoC sees the national education system as an institutional sphere embedded within the context of the political economy as a whole.

The VoC approach focuses mostly on the regulative dimension rather than the normative or cultural-cognitive dimensions of institutions. Institutions are considered especially important due to the support they provide for the relationships firms develop in order to handle coordination problems (see Hall and Soskice, 2001: 9). The assumption is that a firm has to engage with other economic actors in multiple institutional spheres to coordinate its activities (see, e.g., Gingerich and Hall, 2001: 3; Gingerich and Hall, 2004: 7). Analyzing the way coordination problems are solved in these different institutional spheres, VoC defines two distinct modes of coordination, namely market coordination and strategic coordination (see Hall and Soskice, 2001: 8). The US and the UK are discussed as ideal types of a liberal market economy (LME), largely based on coordination through competitive markets. In contrast, Germany is considered to be an ideal type of a coordinated market economy (CME), relying more on strategic interactions. In both cases, the mode of coordination is expected to stretch across all of the institutional spheres of the economy, including the VET system. Clearly, there are variations within these clusters. Competitive markets are a feature of CMEs as well, and elements of strategic interaction are also found in LMEs. However, the crucial differentiating parameter is the relative presence of the two modes. Keeping this in mind, the US, the UK, Ireland, Canada, Australia, and New Zealand are considered to be LMEs, and Germany, Austria, Japan, South Korea, Sweden, Norway, Finland, Denmark, Belgium, the Netherlands, and Switzerland as CMEs (Gingerich and Hall, 2001: 5).

In LMEs, actors primarily coordinate through demand and supply conditions in competitive markets (Gingerich and Hall, 2001: 3; Hall and Soskice, 2001: 8). Furthermore, in LMEs equilibrium outcomes are primarily determined by relative prices, market signals, and familiar marginal considerations (Gingerich and Hall, 2001: 3–4). This implies that the exchange of goods and services is based on extensive formal contracting, that technology transfer occurs through licensing agreements rather than inter-firm collaboration, and

32 Pioneering work in the field of national skill regimes was carried out by Streeck (1991), who drew attention to the link between a standardized and uniform national system for vocational training and what he called diversified quality production (as in the case of Germany). While the work of Streeck emphasizes the issue of labor power, Hall and Soskice (2001) focus somewhat more on the rationality of employers (see also Hall and Thelen, 2009: 8 on this distinction).

that industry standards are mostly set by market mechanisms. Taking the VET system as an example, in LMEs weak employment protections and short-term financing agreements encourage employers to lay off workers in economic downturns. This, in turn, encourages people to acquire skills that are generally more marketable (Culpepper and Thelen, 2008: 24).

In CMEs, on the other hand, there is more institutional support for non-market forms of coordination. Such support is, for example, provided through business or employer associations, trade unions, networks of cross-shareholding, and legal or regulatory systems facilitating information sharing and collaboration (Hall and Soskice, 2001: 10). These "institutions" imply that firms can coordinate with other actors through strategic interaction processes (see Gingerich and Hall, 2001: 4) – as uncertainty about the behavior of actors is reduced and the formation of credible commitments supported. For example, there are institutions that make it relatively safe for firms to invest in the training of workers. Due to strategic interactions between employers and trade unions, as well as between employers, there are labor market imperfections that allow the "standardization" of wages and, thus, reduce the risk of poaching (Culpepper and Thelen, 2008: 24–25).

Thus, Hall and Soskice (2001) and colleagues lay out a framework for analyzing the institutional variations underlying skill systems based on the distinction it draws between (1) LMEs with institutions that discourage firms from investing in skill formation and in which workers tend to acquire general skills that are portable across industries and firms, and (2) CMEs with institutions that provide incentives for employers to collaborate in providing training and for workers to acquire industry- and firm-specific skills (see also Estevez-Abe, Iversen, and Soskice, 2001; Culpepper, 2007: 632; Bosch and Charest, 2008).[33] Moreover, CMEs often "share a strong emphasis on initial vocational training" (Gallie, 2007: 93).

An awareness of the distinctions between CMEs and LMEs outlined above is central to an understanding of the concept of comparative institutional advantage. Due to the particular institutional environment in the political economy, firms in one country produce some products and perform some

33 The question of how "social protection" and "composition of skills" are linked is related to this perspective (see studies rooted in welfare production regime theory, e.g., Estevez-Abe, Iversen, and Soskice, 2001; also Iversen and Stephens, 2008). In welfare production regime theory a core argument is that a country's skills profile is likely to emerge from the combination of employment protection and unemployment protection: "Thus employment protection increases the propensity of workers to invest in firm-specific skills, whereas unemployment protection facilitates the investment in industry-specific skills. The absence of both gives people strong incentives to invest in general skills" (Estevez-Abe, Iversen, and Soskice, 2001: 181–182). Moreover, this school stresses that the collective wage bargaining systems, business organizations, employee representation, and financial systems represent perpetuating institutions contributing to the resilience of welfare production regimes (Estevez-Abe, Iversen, and Soskice, 2001: 181–182).

services better than firms in other countries. In the presence of trade, these advantages then give rise to cross-national patterns of specialization (Hall and Soskice, 2001: 38). That is, firms exploit the given institutional support "to derive competitive advantages that cumulate into comparative institutional advantages at the national level" (Gingerich and Hall, 2001: 17). To give an example, VoC theorists find that firms in LMEs are better at radical innovation, whereas those in CMEs are more attuned to incremental innovation. Thus, the VoC approach – in the 2001 version introduced by Hall and Soskice (2001) – can be regarded as belonging to the group of functionalist explanations that adopt efficiency considerations as main performance criteria: institutions are seen as efficient solutions to problems of governance.

Arguably the most central conceptual tool in the VoC literature is institutional complementarity, which is used to operationalize linkages between the various institutional spheres in modern political economies. In a widely cited (broad) definition, institutional complementarity means that the presence of one institution or institutional domain increases the performance of one or more other institutions or institutional domains (e.g., Hall and Soskice, 2001). Thus, "[t]he core idea of complementarity is that the coexistence (within a given system) of two or more institutions mutually enhances the performance contribution of each individual institution – in essence, that the whole is more than the sum of its parts" (Deeg, 2005: 1). An institutional complementarity can, for example, be observed if VET policy and industrial relations mutually condition and reinforce each other (see Busemeyer, 2009d: 181). Institutional complementarity has increasingly been picked out as a key mechanism underlying trends of institutional change or continuity (e.g., Djelic and Quack, 2007: 167; Deeg, 2007). From a rigid functionalist point of view, institutional complementarities reinforce the status quo, leading to continuity in institutional development. Institutional spheres are assumed to be interlocked due to a prevalence of complementarities between them. However, there are also more dynamic conceptions of institutional complementarities, which posit that mechanisms can "translate" changes from one institutional arena to another (see, e.g., Amable, 2003; or Palier and Thelen, 2010: 121–122).[34]

One of VoC theory's major concerns is whether national institutional settings (or major parts of them) remain stable and the related modes of coordination remain intact in the face of globalization and internationalization pressures (see, e.g., Hall and Soskice, 2001), to which ongoing Europeanization processes can also be counted. Referring to the concept of comparative institutional advantage, proponents of the VoC approach usually predict that LMEs and CMEs will respond differently to the isomorphic pressures of globalization, internationalization, and Europeanization. Given distinct com-

34 This point will be explored in more detail in Section 3.3.1.

parative institutional advantages that rely on specific configurations of institutional complementarities, the VoC perspective tends to emphasize continued institutional divergence between LMEs and CMEs (see, e.g., Gingerich and Hall, 2001: 31).

Thus, given this interpretation of VoC it follows that if we were to observe changes in the relationship between VET and HE, this is expected to be ultimately due to changes in other spheres of the political economy that demand that a new institutional equilibrium be established, institutional complementarities safeguarded or restored, and comparative institutional advantages preserved. In other words, the presence of institutional complementarities can facilitate the perpetuation of the entire institutional configuration at the system level: "Where the benefits of changing one institution are likely to be realized only when a substantial number of other institutions are also transformed, that institution should be more stable" (Hall and Thelen, 2009: 6). Hence, while there is a certain degree of scope for institutional change, the VoC approach (especially in the version of Hall and Soskice, 2001) would not lead us to expect to observe radical institutional change with regard to the relationship between VET and HE unless large-scale changes are also to be observed in a number of other institutional spheres or at the political economy level that affect the national skill formation system.[35] That is, institutional complementarities facilitating institutional change should be most plausible if changes in the respective institutional spheres happen simultaneously and point in the same direction. However, generally speaking, the VoC approach (in the version of Hall and Soskice, 2001) argues for the stability and persistence of distinct national models of capitalism, i.e. CMEs and LMEs, as well as the related national models of skill formation. *Thus, if one applies a stringently functional interpretation of the VoC approach and given strong institutional complementarities in CMEs, significant change with regard to the educational schism between VET and HE seems unlikely (Stasis Hypothesis III).*

Summarizing Table: Overview of the Power, the Legitimation, and the Functional Explanations

Thus far, I have looked at the institutional divide between VET and HE from three different institutional perspectives: status groups and stratification (power explanation), education as a legitimation system (legitimation explanation), and VoC and national skill regimes (functional explanation). Table 5 provides a highly stylized overview of key aspects of these three perspectives as they have been presented in the above.

35 The way in which VET and HE as constituting elements of the national skill formation system can be theorized within the VoC approach is further elaborated in Section 3.3.1.

Table 5: Stylized overview of power, legitimation, and functional explanations (examples)

	Structuring of state education systems	**Education as a legitimation system**	**VoC approach (Hall and Soskice, 2001) and national skill regimes**
Type of explanation	Power explanation	Legitimation explanation at organizational level	Functional explanation
Keywords	Conflicts, status groups, status reproduction	Culture, organizations, legitimation	Efficiency, institutional complementarities, firms
Origins (examples)	Weberian	Sociological institutionalism, organization studies	Comparative political economy, production regime theory
Key institutional dimension(s)	Regulative and normative	Cultural-cognitive and normative	Regulative
*Key level of analysis**	National; state education system and macrosocial units (e.g., status groups)	Meso, i.e., organizations and organizational fields	National, but links meso level to macro level and macro level to global level
Focus of analysis	Conflict and power struggle (between status groups)	Legitimacy (survival and growth) of organizations, "logic of appropriateness" (Campbell, 2004)	Efficiency of national production system; "logic of instrumentality" (Campbell, 2004)
Example of mechanisms	Interests of status groups shape structure of education system; social origins of education system matter	Stabilization of educational organizations through deeply institutionalized rules	Institutional complementarities; exogenous influence translated through comparative institutional advantage
Authors (examples)	Collins (1971)	Meyer (1977)	Hall & Soskice (2001)

* The levels of analysis are further specified in Chapter 4.

Source: Derived from Chapter 3, Part I; inspired by Campbell (2004: 11), Mahoney (2000: 517), and Scott (2008: 48)

Next, I discuss a phenomenon I observed during my fieldwork in Austria, Germany, and Switzerland. This phenomenon, namely the genesis and evolution of hybrid organizational forms at the nexus of VET and HE, raises questions regarding the institutional explanations sketched in Table 5.

3.3 PART II: The Puzzle of Hybrid Organizational Forms at the Nexus of VET and HE

3.3.1 Laying Out the Puzzle

Part I of this chapter focused on the way in which the institutional divide between VET and HE is deeply embedded within the institutional structure of Austria, Germany, and Switzerland. Given the specific interpretations of the three types of explanations for institutional dynamics presented in Part I, there appears to be little prospect for transformative change with regard to the historically evolved divide between VET and HE. However, a key finding of my fieldwork in the DACH countries is that there are some organizational forms that do not seem to fit neatly into either of the two fields of VET and HE. Specifically, these organizational forms, which will be described in detail in Chapters 6–8, are the dual study programs in Germany, the *berufsbildende höhere Schule* (BHS, higher vocational school with higher education entrance qualification) in Austria, and the universities of applied sciences based on dual apprenticeship training and a vocational baccalaureate in Switzerland (FHIVET).[36] As I will show, these organizational forms straddle the boundary between VET and HE and, thus, represent a puzzle to the three specific institutional accounts described in Part I above.

In the following, I will formulate hypotheses regarding the genesis and expansion of these "unexpected" hybrid organizational forms. For this purpose, I critically discuss the VoC approach (as it has been presented by Hall and Soskice, 2001) to suggest that two rather non-functional institutional approaches, namely historical institutionalism and organizational institutionalism, appear more promising when it comes to grasping this type of change in the relationship between VET and HE. Historical institutionalism and organizational institutionalism are both modes within the "new institutionalism" (see Thelen and Steinmo, 1992: 3–7 on historical institutionalism; DiMaggio and Powell, 1991a: 11–15 on organizational institutionalism). As DiMaggio and Powell (1991a: 3) observe, the different institutional approaches subsumed under the banner of new institutionalism share a skepticism toward "atomistic accounts of social processes" but do not have in common a single set of assumptions. Historical institutionalism is most closely associated with the group of power explanations but is to some (limited) extent also linked to the functional explanation. Organizational institutionalism can be classified as a legitimation explanation; it focuses on the meso level of organizations, and is linked to sociological institutionalism.

36 As was mentioned earlier, the abbreviation FHIVET refers to the Swiss organizational configuration of universities of applied sciences (*Fachhochschulen*, FH) that directly build on initial vocational education and training (IVET).

While historical institutionalism is more concerned with the regulative and normative dimensions of institutions (e.g., formal and informal rules and standards), organizational institutionalism also focuses on the cultural-cognitive dimension of institutions (e.g., ideas and cultural-cognitive scripts). These differences imply that historical institutionalism and organizational institutionalism each have specific strength in uncovering processes of institutional change in VET and HE systems. Thus, in combining historical institutionalism and organizational institutionalism, the theoretical framework developed in this second and main part of Chapter 3 can draw on all three types of explanations of institutional reproduction and change presented in Table 4 (power explanation, legitimation explanation, functional explanation). In the following I further elaborate historical institutionalism and organizational institutionalism and argue that their combination is helpful to understand how changes could arise with regard to the deeply embedded institutional divide between VET and HE in the DACH countries.

Critical Discussion of the VoC Approach and Arguments for a Theoretical Framework that Combines Historical Institutionalism and Organizational Institutionalism

While the VoC approach by Hall and Soskice (2001) has greatly contributed to our understanding of distinct models of capitalism, it also faces some criticism. For example, some authors argue that VoC does not consider hierarchies in terms of the influence of different institutions and also that it underestimates the role of the state.[37] The VoC approach is also criticized for treating nation-states as in a sense "sealed" despite the strong forces of globalization and internationalization.[38] Moreover, some sociologists see problems with the way skills are measured in the VoC approach. For example, Tåhlin (2007) has tested some of the micro level associations underlying the VoC perspective on skill formation and argues for the central role the *level* of skills plays, "i.e., their general amount, rather than their specificity" (Tåhlin, 2008: 1). Solga (2007) also observes that in the comparative political econo-

37 In defense of the VoC approach it could be argued that state activity, while not determined, is still frequently biased towards mainly pursuing such policies that are compatible with the incentives the institutional environment provides. Government policies, arguably, work best "if they are incentive compatible, that is if they reflect the underlying mode of competitive or cooperative […] coordination" (Hancké, Rhodes, and Thatcher, 2007: 24). This would suggest that the state's educational policies should be complementary to the coordination capacities embedded in a particular national political economy.

38 However, it should also be noted that skill formation – the key theme in this book – is an example of an institutional arena in which the nation-state is still very influential. Even in the case of HE, which is more internationalized than VET, the relevant literature often emphasizes that national policies, and the national context more generally, continue to play the most dominant role with regard to HE, in spite of the pressures of internationalization (see Kehm and Teichler, 2007: 266).

my literature the level of education is usually ignored in the definition of skills. Because the level of education has a crucial impact on rewards in the labor market, whereas skill specificity is more relevant to employment chances in specific industries, this ignorance of the level of education means that the role skill regimes play in the production of social inequalities remains largely unnoticed by VoC research (Solga, 2007).

In this context, another question is why integrating HE and the relationship between VET and HE is helpful or significant for VoC theory. So far, the VoC analysis of skill formation has paid little attention to higher education (but see Graf, 2009; Leuze, 2010; Hoelscher, 2012; Andres and Pechar, 2013), with the focal point up to now resting on vocational training (e.g., Crouch, Finegold, and Sako, 2004). The fact that VoC theory focuses on VET is problematic, especially given that in developed countries the knowledge that workers acquire in HE is gradually becoming a larger share of firms' overall productive capacities (e.g., Barrow, Didou-Aupetit, and Mallea, 2003; Coulby, 2005). In post-industrial societies, in which information and communication technology plays a pivotal role, a shift from narrow job-specific skills to more analytical general skills can be observed (Mayer and Solga, 2008: 2). According to Sorge (2007: 239), the central logic of the knowledge society is the systematic incorporation of implicit, practical knowledge with codified, theoretical knowledge. As the broader and more abstract types of knowledge are usually (to a greater extent) acquired in HE, the analysis of HE is likely to become increasingly relevant for an analysis of the distinction between CMEs and LMEs (see Graf, 2008; Graf, 2010).

However, if one wants to integrate HE into the political economy literature, one key insight from organizational institutionalism (which is usually applied to the field of academic education) is that HE organizations (e.g., universities) are themselves relevant actors in shaping processes of institutional change. Organizational actorhood (see Krücken and Meier, 2006) refers to an integrated, goal-oriented entity that makes various significant decisions in its own right. Following organizational institutionalism (e.g., DiMaggio and Powell, 1991b), organizational actors can be seen as embedded in their broader institutional environment. From this perspective, institutional change arises if organizational actors have an interest in altering the given (hitherto unquestioned) institutional configuration and are – as so-called institutional entrepreneurs – endowed with the necessary resources to bring about such change (see DiMaggio and Powell, 1991b). Therefore, *in this study the organizational decision-making of educational organizations within their institutional environment is also taken into account.* That is, the meso level of educational organizations is integrated into the political economy approach.

Another criticism of the VoC approach is that it has – at least until recently – mostly ignored diversity within the LME and CME archetypes, and

with that downplays the possibility of endogenous system transformation (Streeck and Thelen, 2005a; and Hancké, Rhodes, and Thatcher, 2007). In contrast, studies by historical institutionalists try to draw inferences about divergence and convergence amongst, for instance, CME cases; that is, special attention is paid to the institutional variance also between CMEs (e.g., Katzenstein, 1984; Culpepper, 2007; Busemeyer and Trampusch, 2012).[39] Thus, *in exploring the Austrian, German, and Swiss cases and the respective relationships between VET and HE, this book aims to contribute to a more differentiated look at these three CMEs and collective skill systems*.

Another critical aspect of the Hall-Soskice (2001) approach to VoC is that the way it conceptualizes institutional complementarities implies a bias towards emphasizing equilibriums and continuity in institutional development. In line with this, critics argue that VoC is "too functionalist," amongst other things in relation to its view of actors making rational and strategic choices (see Crouch, 2005). As Streeck (2002: 7) warns us, "[i]nstitutional complementarity and coherence is at least as much discovered and improvised as it is intended."[40] The issue these authors raise is that, amongst other things, the VoC approach sometimes does not differentiate adequately between the functionality of a certain institution, and the fact that the institution may aim at another goal.[41] Hence, it is important not to move too readily from the complementarity to the causation of institutional outcomes (see, e.g., Jackson, 2005b: 380).

The challenge of accounting for institutional changes is one that VoC scholars share with proponents of other types of institutionalisms. However, historical institutionalists have recently developed approaches to explaining gradual institutional change that relate to the concept of path dependence and that are compatible with a strong institutional theory. In the following, I first offer an introduction to the concept of path dependence and, second, to a typology of gradual institutional change.

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39 For example, Busemeyer (2009a: 379) notes that the VoC approach does not adequately account for the variety of training regimes within CMEs.

40 Two institutions are coherent if they can easily coexist, e.g. for structural reasons. Thus, *coherence* is a structural feature and relates to the governance mode of institutions. *Complementarity*, on the other hand, is a functional feature, as two elements are complementary if the performance of the conjunction of these two elements is superior to the performance of each element considered separately (see Höpner, 2005; Crouch, Streeck, Boyer et al., 2005; see also Boyer, 2005).

41 Furthermore, it is crucial to specify the performance criteria one is interested in when working with the concept of institutional complementarity. While for Hall and Soskice (2001) the main reference frame is competitiveness and efficiency, Becker (2007: 270) points to potentially contesting political goals like equality, freedom, generous social security, environmental protection, full employment, co-determination, and low taxes. Here, his point is that macro-social entities, like capitalist systems, always contain several performance criteria or reference frames (Becker, 2007: 269).

The basic idea of path dependence is that established institutions, or the "interdependent web of an institutional matrix" (North, 1990: 95), typically generate powerful inducements that reinforce stability in further development.[42] Methodologically, path dependence suggests a middle way somewhere between "random" and "pre-determined" historical development (Leipold, 1996: 95). However, the concept goes far beyond the statement that "history matters." It basically describes a dynamic process involving positive feedback and increasing returns (Pierson, 2004: 20). Self-reinforcing mechanisms imply that the possibility of taking another step down the same path increases with each move down the path. In this way, once-possible outcomes become more difficult to achieve over time. Hence, it can even be rational to stick to a sub-optimal path if the efficiency losses are not perceived to be higher than the costs of establishing a more efficient institution (see North, 1990; Scherrer, 2001: 5). This kind of lock-in can also be understood as monopolization despite multiple possible equilibria, whereby early events can have a significant long-term impact (even if they seemed small initially). Arthur (1994) established the following characteristics for path dependence: (1) large set-up costs that result in lower costs per unit as output increases; (2) learning effects that lead to increased know-how and routine, and (3) positive network externalities that refer to coordination effects and adaptive expectations and imply increasing utility as the number of incidences increases (Arthur, 1994; see also Leipold, 1996: 97). North (1990) then extended Arthur's conception of path dependence, initially predicated on technological development, to the study of institutional development.

However, one of the next major challenges in the analysis of path dependency was to create a theory that is not too biased towards describing stability in institutional development. Analytical categories for such an analysis have recently been developed. According to Campbell (2004), institutional change can be seen as "constrained innovation" on the ground. In this context, Campbell (2004) refers to concepts such as "bricolage" and "translation." Another example is Ebbinghaus's (2005) description of several "branching pathways" (path cessation, path switch, path departure, and path stabilization). Here, I refer to the typology presented by Streeck and Thelen (2005b) that emphasizes that the survival of institutions "is guaranteed not by their 'stickiness' but by their ongoing adaption to changes in the political and political-economic environment" (Thelen, 2004: 217).[43] This typology can be located within historical institutionalism and focuses on a number of modes of gradual or incremental changes that can add up to transformative change

42 In this context (as was noted earlier in Section 3.2.3), institutional complementarities are usually expected to work towards stability (see Djelic and Quack, 2007: 167).

43 In a similar vein – speaking about the system level – Streeck (2009: 215) writes that, "as social systems are in fact processes, the real choice is not between change and stability, but between different directions of change, within parameters of given historical constraints."

(see also Thelen, 2002). In the case of all four modes presented below (displacement, layering, drift, and conversion), substantial institutional change may be masked by relative stability on the surface (Streeck and Thelen, 2005a):

(1) When existing rules are removed and new ones introduced, we can speak of *displacement* (Mahoney and Thelen, 2010a: 15). Gradual displacement can occur, for example, when supporters of the old institutional configuration are no longer in a position to prevent other actors' defection to new rules (Mahoney and Thelen, 2010a: 16).

(2) When institutions are not replaced by wholly new ones, but are rather amended, revised, or new rules are added, this is called *layering*. Over time, layering can alter the central logic of the institutional configuration in question (Mahoney and Thelen, 2010a: 16–17; see also Schickler, 2001). For layering, the mechanism of change is differential growth, such as when small amendments set in motion dynamics that eventually crowd out or supplant the old logic of an institutional configuration (Streeck and Thelen, 2005b: 22–24).

(3) Based on Hacker (2005), *drift* can be seen to refer to shifts occurring in the external conditions of a rule that imply that this rule formally stays the same but that its impact changes (Mahoney and Thelen, 2010a: 17). In other words, in the case of drift, the environment of an institution changes, resulting in an altered scope, meaning, or function of that institution (Streeck and Thelen, 2005b: 24–26).[44]

(4) When rules get interpreted and implemented in new ways but formally stay the same, this redirection or redeployment is referred to as *conversion* (Thelen, 2003). In this context, the gap between formal rules and their enactment is often produced by actors who actively exploit the inherent ambiguities of institutions (Mahoney and Thelen, 2010a: 17–18).[45]

Given that these four modes allow for an analysis of change for which no critical juncture is necessarily required (see Streeck and Thelen, 2005a; Mahoney and Thelen, 2010a), they can be deemed particularly useful for my study of the deeply embedded institutional divide between VET and HE. In addition, these modes of gradual institutional change help us to understand the macro context (e.g., the specific actor constellation in small state corporatism) against which institutional changes in the field of VET and HE can be mapped.

44 Drift need not necessarily be inadvertent if it results from actors' creative use of institutions, such as when a policy is difficult to change "internally" through legislative politics (Hacker, 2004: 248).

45 Conversion can, e.g., bring "organizational forms that are created in the past broadly into synch with currently prevailing power relations and cultural norms" (Thelen, 2000: 107–108).

In summary, in this book I draw inspiration from the historical institutionalist perspective in order to be able to address a variety of possible patterns of institutional change at the nexus of VET and HE. As mentioned in the above, this historical-institutionalist perspective is complemented by insights from organizational institutionalism to enable the analysis of the meso level of organizations and their interplay within specific organizational fields.

In the next section I build on historical institutionalism and organizational institutionalism to derive my main hypothesis with regard to the hybridization of VET and HE.

3.3.2 Main Hypothesis: The Hybridization of VET and HE

The barriers to institutional change in the relationship between VET and HE described in Sections 3.2.1, 3.2.2, and 3.2.3 provided some possible theoretical expectations for the persistence of VET and HE as distinct organizational fields (Stasis Hypotheses I–III). To recap, the fields of VET and HE are seen as serving different purposes in the economy and national model of capitalism (functional explanation), they are shaped by two different constellations of interest groups (power explanation), and they are strongly legitimized within a complex stratification system (legitimation explanation). However, at the same time, the educational schism is increasingly challenged by factors such as demographic change and the shortage of skilled workers, the structural development towards the so-called knowledge economy, rising educational aspirations of individuals, as well as – more recently – Europeanization processes such as Bologna and Copenhagen (see Chapter 5).

Thus, there are both pressures for institutional change and strong forces stabilizing the institutional divide between VET and HE. In such a situation, historical institutionalism suggests that change is most likely not to occur through outright displacement but rather through "indirect activities" at the fringe of the given institutional order. A first look at the dual study programs in Germany, the BHS in Austria, and the Swiss FHIVET configuration suggests two points: (a) They seem to combine some of the core institutional elements from both the VET and the HE field – such as the respective modes of governance. However, in doing so, these organizational forms apparently do not break with the institutional legacy of the Austrian, German, and Swiss skill formation systems, which refers, for instance, to the prevalence of the vocational principle; (b) all three organizational forms appear to be located in a new niche between the established fields of VET and HE. In view of these first observations, *I hypothesize that a major way in which Austria, Germany, and Switzerland have been addressing the above-mentioned challenges to the institutional divide between VET and HE is through* hybrid *organizational*

forms that (a) combine institutional elements from VET and HE and (b) represent layering, that is, a new "layer" in the respective skill formation system (Hybridization Hypothesis).

This hypothesis will be elaborated in more detail in the following sections. In the next step I will introduce the concept of hybridization as a form of gradual institutional change.

3.3.3 Notes on the Concept of Hybridization

As Honingh and Karsten (2007: 137) observe, "labeling an organization a hybrid does not reveal precisely what the organization is or looks like. This label only informs people of the fact that two distinctive ideal types are blended within one organizational entity." According to Lamont and Molnár (2002: 187), "[m]uch more needs to be done in terms of exploring the conditions under which boundaries generate differentiation or dissolve to produce hybridity or new forms of categorization." In the literature on hybridization, hybrid organizational forms are most often referred to as heterogeneous arrangements standing between *markets* and *hierarchies* (e.g., Ménard, 2004: 345). However, the mix of market elements and hierarchy elements is obviously only one possible way in which a hybrid can be constituted. For example, hybrids are sometimes also described as distinct organizational forms such as *clans* (Ouchi, 1980) or *networks* (Powell, 1990). Yet another type of hybrid organization are those that arise out of a recombination of elements from different national models (see, e.g., Morgan and Quack, 2006 for a case study of the internationalization of professional service firms).

I follow Haveman and Rao (2006: 975) in analyzing hybrids as "entities that blend elements of two or more distinct organizational forms." That is, I am not so much concerned with hybrids as entities combining hierarchy and market elements, nor as subsidies or consortia of two or more organizations. Rather, it is assumed that "[h]ybrid organizations combine the institutional logics that are materialized in two or more organizational forms" (Haveman and Rao, 2006: 974). Thus, in this book a hybrid is characterized as a combination of at least two different institutional logics in such a way that a new organizational form arises with characteristics that are not present in the constituting components (see also Dinkelacker, 2008: 23). In this sense, the whole is, in one way or the other, more than the sum of its parts. Furthermore, it is important to note that "most hybrids do not fall neatly in the middle in terms of the relevant dimensions" (Foss, 2007). Thus, I do not expect to find "perfect" hybrids that combine elements from each of the relevant institutional logics in a smoothly balanced way. Rather, my goal is to find out whether, and if so, which, and to what extent elements from the institutional logics of VET and HE are combined in a particular organizational form.

As was mentioned earlier, my analysis focuses on institutional permeability between VET and HE rather than on a measurement of actually realized individual mobility.[46] I measure institutional permeability in all three institutional dimensions: regulative, normative, and cultural-cognitive. Thus, coming back to hybrid organizational forms, these may, for instance, adopt and combine elements from VET and HE that are taken for granted in the organizational fields respectively and, in this way, overcome the educational schism between these two fields in the cultural-cognitive dimension (see Section 3.3.4 for an extended discussion). In turn, such increased institutional permeability can, for example, have the effect that the actors from the two fields of VET and HE become increasingly familiar with the institutional practices in the respective other field.

Applied to the empirical cases, my minimal definition of a hybrid organizational form is the following: A hybrid organizational form spans the institutional divide between the organizational fields of VET and HE in combining in some significant way elements from the respective institutional logics. In other words, hybridity implies the integration of institutional elements from VET and HE into the structure and practices of a particular organizational form. These institutional elements can belong to one or several of the following three dimensions of institutions: regulative (related to, e.g., certificates and rules of accession), normative (related to, e.g., curricula and key target groups), and cultural-cognitive (related to, e.g., perceptions that are taken for granted). Beyond that, hybridity does not combine or integrate such institutional elements by simple addition but rather by way of "synergy."[47] Furthermore, the hybrids I am interested in are those that constitute one organizational form or integrated organizational configuration. Thus, I am, for instance, neither focusing on possible hybrid cognitive scripts at the level of an individual's mind nor on the possibility of accomplishing parallel programs in which VET and HE streams are separate rather than in some significant way integrated. Thus, for instance, the option of taking a preparatory course to gain a university entrance qualification as a mere add-on to a standard apprenticeship training program would not be a hybrid according to my definition (see next section for details).

After these general notes, the following section offers a detailed operationalization of hybridization. To begin with, I define two decisive temporal phases in the process of hybridization.

46 Individual social mobility between VET and HE is touched upon in as far as it is possible to make assumptions about it based on (a) the findings for institutional permeability and (b) the available participation rates presented in the country chapters.

47 Synergy is the interaction between at least two things where the effect produced is greater than the sum of the individual effects (see Butterfield, 2003).

3.3.4 Operationalizing Hybridization: Phases, Scenarios, and Criteria

Chapters 6–8 are organized along two temporal phases. Phase I (Genesis) covers the period in which the respective hybrid organizational form was established. That is, this phase focuses on the establishment of the hybrid organizational form in question. In this phase, broadly speaking, hybridization refers to the processes of institutional change that bring about the hybrid organizational form. The starting points for the respective country analyses vary slightly depending on when the genesis of the hybrid organizational form took place. Phase II (Further Evolution) covers the further development of the hybrid organizational form after its initial establishment. On the one hand, this phase describes aspects related to the consolidation and maintenance of a particular hybrid organizational form. On the other hand, it refers to processes that lead to further hybridization in the form of an expansion or diffusion of this hybrid organizational form. In both Phases I and II, the study is sensitive to the influences that Europe and Europeanization have had (see Section 3.3.5 and Chapters 4 and 5 for more details on the operationalization of Europeanization). The final part of each country chapter and of Chapter 9 features a section explicitly devoted to the impact of current Europeanization processes, such as Bologna and Copenhagen, on the relationship between VET and HE in general and on hybridization in particular.

In the next step I describe a number of hypothetical scenarios of hybridization as well as criteria for hybrid organizational forms. Finally, the concept of hybrid organizational forms is contrasted with non-hybrid linkages between VET and HE.

Hypothetical Scenarios of Hybridization

Murray (2010) states that the literature on hybridization offers three distinctive implications of hybridization for institutional change: One scenario is that of "hostile worlds" in which "hybrids are produced as a result of the invasion of one [institutional, LG] logic by the other" (Murray, 2010: 342). In this sense, hybridization is indicative of a process of domination of one institutional logic over the other and possibly collapse (see also Haveman and Rao, 2006). Another scenario is that of "blended worlds" in which hybrids come into existence through blending mechanisms that diminish the differences between formerly distinct institutional logics (see Hannan and Freeman, 1989). Yet another scenario is that of "coexisting worlds," highlighting cases in which neither blending nor collapse can be observed, that is, institutional logics remain distinct despite the presence of hybrid boundary organizations (see Lamont and Molnár, 2002).

However, these three implications of hybridization remain vague without adaptation to a specific empirical case. Hence, below I extend and adapt these

three scenarios to the case of hybridization between VET and HE. For this purpose, I also differentiate between the analytical Phases I (Genesis) and II (Further Evolution):

Hypothetical Scenarios for the Genesis of a Hybrid Organizational Form (Phase I)

- *Genesis Scenario I* (refers to "hostile worlds"): The hybrid is produced through the *invasion* of one institutional logic by another. That is, one institutional logic "captures" the other, which results in the blending of the two logics within a new hybrid organizational form.
- *Genesis Scenario II* (refers to "blended worlds"): The hybrid is produced through the *mutual approximation* of two distinct institutional logics, which results in the blending of VET and HE elements within a new hybrid organizational form.

Hypothetical Scenarios for the Further Evolution of a Hybrid Organizational Form (Phase II)

- *Evolution Scenario I:* The hybrid organizational form eventually *collapses* as it gets subsumed into one of the two relevant institutional logics, which, in turn, re-establishes or even reinforces the institutional divide between VET and HE.
- *Evolution Scenario II:* The hybrid character of an organizational form diminishes as the combination of VET and HE *creates something new* (which, however, can no longer be considered a genuinely hybrid organizational form).[48]
- *Evolution Scenario III:* The hybrid organizational form *expands continuously*, facilitating further blending between VET and HE. This, in turn, leads to a gradual breakdown of the educational schism between VET and HE.
- *Evolution Scenario IV* (refers to "coexisting worlds"): The hybrid *persists and thrives*, diminishing the institutional divide between VET and HE. However, the hybrid's *expansion is limited* in the sense that it coexists with the "traditional" organizational forms in both VET and HE.

These hypothetical scenarios still allow for further specifications of the respective institutional change processes, for example with reference to the different modes of gradual institutional change described in the above. I

48 Robert Boyer, who has worked on hybridization through the lens of French regulation theory (see Boyer, 1998 on hybridization related to multinational firms transplanting their productive models to different national contexts), argues that hybridization should ultimately lead to something new – in other words, that hybrids are inherently instable (personal communication, WZB, 15 Dec. 2010).

expect hybrid organizational forms to represent layering at the nexus of VET and HE (see Hybridization Hypothesis). On the one hand, the hypothetical scenarios for the genesis of a hybrid organizational form (Phase I) are related to the question of how the layer that these hybrids represent was created. On the other hand, the hypothetical scenarios for further evolution (Phase II) are related to the question about the likely post-genesis development of this layering at the nexus of VET and HE. These specifications and the question of whether one or more of the scenarios above apply to the cases of Austria, Germany, and Switzerland are a key topic in Chapters 6–8.

Criteria for Hybrid Organizational Forms

As mentioned earlier, hybrid organizational forms combine institutional elements from at least two distinct institutional logics. This section sketches a set of criteria for identifying such complex organizational forms. Another purpose of this taxonomy is to ensure the comparability of organizational forms across the three country cases. Lack of such comparability can be ascribed to the following sources: parochialism (e.g., ignorance of general cross-case characteristics), misclassification (e.g., ascription of pseudo-classes), degreeism (e.g., conceiving differences in kind as differences in degree), and, more generally speaking, conceptual stretching (e.g., due to definitional sloppiness) (Sartori, 1994: 16–21). The following three criteria are meant to avoid such fallacies in the comparison of my three country cases. It should be noted that if an organizational form fulfills the three criteria outlined below, then I define it as a hybrid.

Hybridity Criterion I (Learning Process) relates to all three institutional dimensions as it requires that a hybrid organizational form in some significant way combines learning processes that are typical for VET and HE. In this context, hybrid organizational forms represent parity of esteem between VET and HE. That is, neither VET nor HE should be overly dominant within the organizational set-up of these hybrids, nor with regard to the hybrid's perception and reputation in society. For various reasons we can observe a general structural change towards higher and more academic levels of education (see, e.g., Chapter 1). Yet, what sets apart the hybrids in question is that they do not locate VET below HE in terms of reputation. Thus, the main idea of these hybrid organizational forms is not to build a bridge *from* the traditional field of VET *to* the traditional field of HE, but to constitute organizational configurations in which VET and HE play an equally important role.

Hybridity Criterion II (Typical Pathway and Certification) stipulates that in their ideal-typical forms the hybrids are designed to integrate a qualification from upper-secondary VET with a post-secondary HE qualification. In this way, an ideal-typical hybrid in some way provides the option of spanning the boundary between two levels as it offers the possibility of gaining a certificate that traditionally originates from upper-secondary education as

well as one from post-secondary education. It follows that those who graduate from hybrid organizational forms should have had the option to acquire both an initial VET certificate as well as a HE certificate. The underlying reasoning is the following: This book focuses on the relationship between VET and HE, whereby HE is by definition formally ascribed to the post-secondary level, while the core of VET is centered at upper-secondary level (e.g., due to the formal location of dual apprenticeship training in the DACH countries). That is, the chosen organizational forms should in some way integrate HE at post-secondary level with initial VET at upper-secondary level. This second criterion is a strong indicator for hybridity, as it stipulates that both VET and HE elements have to be directly and substantially integrated into a particular organizational configuration. Beyond that, this criterion rules out the great diversity of organizational forms that combine in some looser sense elements of VET and HE, like university programs requiring internships.[49] Hence, this second criterion addresses the problem of degreeism. In addition, similar to the first criterion, this criterion helps to avoid misclassification when it comes to the selection and comparison of specific organizational forms in Austria, Germany, and Switzerland.

Hybridity Criterion III (Governance) is located in the regulative dimension of institutions and stipulates that a hybrid organizational form can neither be solely subject to the mode of governance typical for HE nor to that for VET, but to some combination of both. The distinct modes of governance of VET and HE deeply penetrate the rules, norms, and ideas prevailing in the respective organizational field. Consequently, these modes are a major factor contributing to the persistence of the institutional divide between VET and HE. The integration of elements from both modes of governance in one organizational form can thus be considered a strong indicator for hybridity.

49 Consequently, I am also not concerned with "mere" double qualifications (VET certificate + higher education entrance certificate) at upper-secondary level. The research project "The acquisition of integrated qualifications for professional work and study – An assessment of innovative approaches in seven European countries (INTEQUAL)" (1995–1997), which was supported by the European Commission's Leonardo program, looked at qualifications in seven European countries that combine vocational and general education at upper-secondary level (Austria, England, France, Germany, the Netherlands, Norway, and Sweden) (Manning, 1997). Similarly, the project "Hybrid qualifications: increasing the value of vocational education and training in the context of lifelong learning" (Oct. 2009 – Sep. 2011) analyzed qualifications that provide vocational training for labor market access as well as entry to HE. This project was also supported by the Leonardo program and covered Austria, England, Germany, and Denmark (see Aff, Paschinger, and Rechberger, 2010 for the country report Austria; Deißinger and Heine, 2010 for the country report on Germany). Both of these projects focus on double qualifications at the upper-secondary level providing access to HE. My focus is on organizational forms spanning the boundary between upper-secondary VET and post-secondary education HE, whereby the organizational forms are not per se "subordinated" to HE.

In the following I present several types of non-hybrid institutional linkages between VET and HE to further specify – by way of contrast – the criteria for hybridity defined above.

Distinguishing Hybrid Organizational Forms between VET and HE and Direct Linkages from VET to HE

While the focus in this book is on the description and analysis of hybrid organizational forms, these are not the only way in which more institutional permeability between VET and HE can be achieved. In the following I present four such non-hybrid types of linkages between VET and HE (see also Ebner, Graf, and Nikolai, 2013; Dunkel, Le Mouillour, and Teichler, 2009).[50] All of these four types stand for attempts to build direct linkages (or bridges) to facilitate individual access to HE for people from VET. However, it should be borne in mind that the focus of this study is not on "mere" direct linkages that facilitate individuals' transition from VET to HE, but on distinct hybrid organizational forms located between VET and HE that systematically combine elements from these two fields.

1. *Attendance of upper-secondary schooling after completion of a VET program (Zweiter Bildungsweg)*: In all three countries there are options for people holding a VET qualification but not a higher education entrance certificate to visit some form of specialized upper-secondary general schools to acquire such a certificate (see, e.g., Lönz, 2008).
2. *Attendance of upper-secondary schooling in parallel to a VET program*: The vocational baccalaureate in Switzerland and Austria can also be acquired in parallel to a dual apprenticeship program (or at least major parts of it).[51] This implies that, in addition to the standard curricula at vocational schools, apprentices are attending some additional vocational baccalaureate classes. In Germany, the option of acquiring some form of higher education entrance certificate in parallel to a VET program also exists but is not broadly institutionalized (see detailed descriptions in Chapters 6–8).
3. Another option is *admission to HE on the basis of prior VET qualifications and work experience (Dritter Bildungsweg)*: In Germany, in 2009 the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (*Kultusministerkonferenz*, KMK) for the first time agreed at a nationwide level that holders of a *Meister* (Master craftsmen) certificate should have general access to HE. In addition, holders of an initial VET certificate gain subject-restricted access to HE after three years of work experience and after

50 I am grateful to Ulrich Teichler for his inspiring thoughts on this range of possible linkages.

51 In Austria, the last of four exams leading to the vocational baccalaureate can only be taken *after* the VET certificate has been awarded (BMUKK, 2011b).

passing a procedure to assess their aptitude to study (KMK, 2009b, a). In Austria and Switzerland, no similarly wide-ranging regulation for admission to HE on the basis of prior VET qualifications and work experience exists. Yet, for instance, in Switzerland, holders of a higher VET qualification (ISCED 5B) may enroll in universities of applied sciences (SKBF, 2010: 244).

4. Institutional permeability between VET and HE can also refer to the *recognition of prior VET learning as an element in HE programs*. The point here is that individuals with VET training or professional work experience do not have to begin a new program from scratch, but can enter the new program at an advanced stage of the program. The prime example of this kind of procedure is the German ANKOM Initiative (*Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge* or Recognition of Vocational Competences as an Element in Higher Education Programs), which started in 2005 and tests tools for the accreditation of prior learning at a number of HE institutes (see Hartmann, Buhr, Freitag et al., 2008; Hartmann, 2008 on the accreditation of prior experiential learning (APEL) and the accreditation of prior certified learning (APCL)). However, in practice the implementation of the ANKOM pilot project is very much challenged due to the differences in learning styles in VET and HE (Müller, 2008), as well as the need to adjust these accreditation tools to the various types of HE institutes (Freitag, Hartmann, Loroff et al., 2011). Switzerland also already has some experience of recognizing prior learning; for instance, procedures are in place in several cantons in the French-speaking part of Switzerland (Romandie/*Westschweiz*) (Stalder, 2006: 61).[52] Thus, the University of Applied Sciences Western Switzerland and the University of Geneva have procedures in place for crediting prior non-formal and informal learning (Voit, Petrini, Weber et al., 2010: 6). In Austria, the recognition of prior VET learning as an element in HE programs is especially relevant in the case of graduates from the BHS who enter universities of applied sciences (see Chapters 6–8 for details).

Each of these four options provides some form of institutional linkage between VET and HE. Types 1, 2, and 3 are explicitly concerned with the aspect of access to HE for individuals originally trained in VET. While type 3 is about admission to HE on the basis of prior VET qualifications and work experience, types 1 and 2 rely on some form of acquisition of a higher education entrance certificate. Depending on the specific regulations within the country, this certificate can either provide general access to HE (i.e., to both universities and universities of applied sciences) or limited access to HE

52 In this context it is significant that the Romandie is historically and culturally influenced more by France than by Germany, see Chapter 8 for details.

(e.g., only to specific subjects or only to universities of applied sciences). Type 4 is not about access to HE but about recognition of prior learning within HE programs.

It should be noted that the availability of these four types of "bridges" does not automatically lead to a high degree of permeability between VET and HE. While they imply that at the regulative level there are options for transferring from VET to HE, there are often normative and cultural cognitive barriers that prevent individuals from actually doing so (Bernhard, forthcoming; Ebner, Graf, and Nikolai, 2013). For example, first assessments of type 3 (*admission to HE on the basis of prior VET qualifications and work experience*) show that a number of underlying conditions, such as lack of specific financial support, still pose a huge barrier for such potential non-traditional students (e.g., Ulbricht, 2012 on the German case).

Furthermore, none of these four options represents a hybrid. What all of these options have in common is that they in some way subordinate VET to HE, which contradicts Hybridity Criterion I. In other words, the underlying idea of these four options is to provide (or facilitate) access to HE for VET graduates. For this purpose, they define standards and rules that have to be met to enable such access. None of these four options represents an organizational form that genuinely integrates learning processes typical for VET and HE, and this contradicts Hybridity Criterion I.[53] Moreover, Hybridity Criterion II eliminates the different forms of the vocational baccalaureate (*Berufmaturität*) that exist in Switzerland and Austria as hybrid organizational forms in their own right. The organizational forms awarding the vocational baccalaureate combine initial VET with general academic education located at upper-secondary level (not the post-secondary HE level). This contradicts Hybridity Criterion II (see Chapters 6–8 for details).

In other words, the focus in this book is less on possibilities for individuals to move from VET to HE, which are for instance discussed in the literature on second- and third-chance education (*zweiter und dritter Bildungsweg*) (see, e.g., Mucke, 2010b; Freitag, 2011 on the German case). Rather the focus is on the unexplored cases of the evolving hybrid organizational forms in Austria, Germany, and Switzerland. In this context, hybridization stands for distinct organizations located between VET and HE that systematically combine institutional elements from these two fields. In this way, these hybrids have the potential to genuinely overcome the educational schism in all three dimensions of institutions (regulative, normative, and cultural-cognitive).

The next section shifts the focus to expected country differences between Austria, Germany, and Switzerland.

53 See, e.g., Kutscha (1996), who argues that most of the double qualifications available in Germany are based on the addition rather than the integration of the two fields of learning.

3.3.5 Expectations Regarding Country Differences

In the previous sections I have formulated the expectation that a number of specific conditions (e.g., two long-established, separate organizational fields in skill formation) and driving factors (e.g., the shift to a services and knowledge economy) have led to a process of hybridization in the skill formation systems of the DACH countries. Yet, the specific way in which such hybridization plays out in each of these countries is likely to depend significantly on country-specific context factors and mechanisms of change and reproduction. That is, I expect that variance in the patterns of hybridization between Austria, Germany, and Switzerland relate back to differences in the respective national institutional environment.

This section relies on organizational institutionalism and historical institutionalism to derive some preliminary expectations about such inter-country differences. This will not lead to a complete list of expectations covering all the insights that could theoretically be derived from organizational institutionalism and historical institutionalism. Rather, the idea is to focus on three key factors that I expect to be of major significance for explaining differences in patterns of institutional change between VET and HE in the three countries at hand. As indicated in the brackets below, each of the three factors a–c is discussed in the context of either organizational institutionalism, historical institutionalism, or both: (a) the relative position of and competition between organizations (organizational institutionalism), (b) small state corporatism in Austria and Switzerland (historical institutionalism), and (c) the differential impact of the Europeanization of education systems (organizational and historical institutionalism).

Relative Position of and Competition between Organizational Forms (Organizational Institutionalism)

Organizational institutionalism focuses on the meso level and dynamics in the relationship between organizations. Organizational fields are seen to be the locus where "institutional work" takes place. Institutional work refers to the "purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions" (Lawrence and Suddaby, 2006: 215). Lawrence (2006: 249) argues that the analysis of institutional work "must attend specifically to the conflict that exists between contested fields and the ways in which boundaries are maintained in fields where conflict is less overt" (Lawrence and Suddaby, 2006: 249). While the functional and power explanations sketched earlier usually take, for instance, firms, status groups, or the state as major societal actors driving institutional change, organizational institutionalism acknowledges that organizations can have distinct interests of their own (see Brint and Karabel, 1991: 345), whereby "[t]hese interests

can take on an autonomous logic capable of diverting organizations from their initial goals" (Brint and Karabel, 1991: 344). Institutional policies and structures "may, under some circumstances, embody less the interest of external groups than the logic of the organization itself" (Brint and Karabel, 1991: 345). In their case study of the transformation of American two-year community colleges from largely liberal arts institutes to largely vocational education and training institutes, Brint and Karabel (1991: 345–352) identify several origins of organizational interests: (1) structures of constraint, (2) opportunity fields, (3) organizational assets, and (4) mental sets of organizational elites.[54] Key aspects of the organizational environment relevant for organizational survival also include the competitive or complementary relationship to other organizational forms within the education system. Specifically, *I expect that the genesis and evolution of hybrid organizational forms is strongly influenced by their location in the education system and their relationship to the non-hybrid organizational forms offering more traditional educational pathways in the fields of VET and HE, respectively (Country Differences Hypothesis I).*

For example, it can be expected that some frictions between the hybrid and the traditional non-hybrid organizational forms are lurking both during the genesis and the further evolution of the hybrid organizational form. One way in which the relative position and the competition between organizational forms matters relates to the way in which the hybrid organizational forms are maintained despite these frictions. The process tracing in Chapters 6–8 shows that, in this context, the availability of ambiguities in the institutional environment as well as sufficient scope for loose coupling is central to enabling the buffering of these frictions and, with that, the maintenance of hybridity. This point is theoretically developed in an inductive way in Chapter 9 (see especially Section 9.5).

This first Country Differences Hypothesis also illustrates that organizational institutionalism entails at least two broader strands: one which emphasizes the taken-for-grantedness of a wide range of social and organizational

54 The management in charge of educational organizations appears particularly suited for an analysis of organizational interests as managers aim to establish, retain, or strengthen their organization('s legitimacy) while taking into account the dynamics in the environment (like shifts in policies, standards, and ideas). In this context, organizational elites, i.e. professionals with primary administrative responsibility in organizations, are perceived as "constrained entrepreneurs"(Brint and Karabel, 1991: 346, 356). This suggests that management can reasonably be analyzed in line with the postulate of bounded rationality, which states that decision-making is necessarily a non-optimizing procedure in which heuristic processes play a central role. Decision-making is bounded due to internal, cognitive limitations and external, social constraints and norms. Heuristic processes represent "rules of thumb" that help humans to deal with their cognitive limitations (e.g., Gigerenzer and Selten, 2001). In a similar vein, North (1994: 17) speaks of procedural rationality, which implies that organizational management is incompletely informed, devises subjective models, and can even correct these models only imperfectly with the feedback it receives.

phenomena and another one which starts from the same premise but focuses more on agency and organizational actorhood feasible within a given institutional setting. Stasis Hypothesis I is linked to the former strand, while Country Difference Hypothesis I is more closely associated with the latter.

Type of Federalism and Small State Corporatism (Historical Institutionalism)

Institutional change is shaped by shifting actor constellations and interest coalitions within particular institutional settings and is contingent on the relative power resources of the respective actors (see, e.g., Thelen, 2004). Archer (1989: 258, italics in original) argues that "the precise forms education takes are held never to be precisely what *anyone* wanted. Being the political products of power struggles, they bear the marks of concession to allies and compromise with opponents." Archer (1989: 251–252, italics in original) directs attention to four "universal" characteristics of state education systems: "*unification* (development of a national framework of educational administration), *systematization* (transition from the sum of parts to a coordinated whole), *differentiation* (separation from other parts of society), and *specialization* (diversification of education inputs, processes, and outputs)." Further, Archer goes on to argue that differentiation and specialization are dominant in decentralized state education systems, such as in the US and Germany (see also Powell, 2009b: 171), whereas unification and systematization are more common in centralized systems (e.g., in France) (Archer, 1989: 252). Germany, Austria, and Switzerland are all federal (in the Swiss case cantonal) systems. However, there are also differences in these countries' federal systems. For instance, the German *Länder* are on average far larger than their counterparts in Austria and Switzerland. Another example is that the federalist system in Austria is more centralized and focused on the capital city (i.e., Vienna) than in the cases of Germany and Switzerland (see Chapters 6–8). Depending on the degree of decentralization/centralization, different patterns of interaction generate different patterns of change, as different processes of negotiation are relevant, and as different groups have different control over them (see Archer, 1989: 260). In this context, my expectation is that *the degree of decentralization/centralization in the national education system is an important factor shaping the degree of standardization at the national level of hybrid organizational forms (Country Differences Hypothesis II).* This hypothesis applies to both the genesis and the further evolution of hybridization. Here, standardization refers both to the normative dimension of institutions (e.g., curricular differences) and their regulative dimension (e.g., aspects of governance).

The fact that Austria and Switzerland are smaller in size also matters with regard to the type of corporatist arrangement in these countries.[55] The theory of small state corporatism offers a comparative perspective on processes of institutional change in Austria and Switzerland, which are smaller in size, compared to those in the larger country Germany. Katzenstein (1984, 2003) observes that in small states like Austria and Switzerland internal rigidity can nevertheless lead to external flexibility. For instance, to mediate the influence of exogenously induced structural economic change (see Campbell, 2004), small states exposed to global trade flows have relied on interventions on the supply side of the economy to raise the workforce's skill level (Culpepper, 1999b: 6). Thus, political reforms in these small states safeguard domestic stability but are nevertheless guided by the perceived need to adapt rapidly to new exogenous and endogenous challenges. At the core of Katzenstein's argument lies *inclusiveness*, characterized by "an ideology of social partnership expressed at the national level; a relatively centralized and concentrated system of interest groups; and voluntary and informal coordination of conflicting objectives through continuous political bargaining between interest groups, state bureaucracies, and political parties" (Katzenstein, 1985: 32). In this context, Katzenstein (1984, 2003) recognizes the relative vulnerability of small (and export-oriented) states like Austria and Switzerland to developments in the international political economy. This vulnerability facilitates corporatism and a culture of consensual politics.

According to Katzenstein (2003), the Austrian social partnership arose from the traumatic experience of the Great Depression (i.e., capitalist instability), the two World Wars, and the experience of Nazi occupation, which all led to an ideology of institutionalized concertation practices. The development of small state capitalism also relates to the nationalization of Austria's industries and its corresponding social corporatist politics (Katzenstein, 2003: 11). Indeed, Austria is often considered a corporatist country *par excellence*, and the exemplification of the social variant of democratic corporatism characterized by a centralized state and central decision-making, strong executive power, and strong labor (Afonso and Mach, 2011: 16). Switzerland, on the other hand, is an example of the liberal variant of small state corporatism in which business and capital enjoy greater leverage in relation to employer associations and reformist trade unions. Nevertheless, the system is structured in a way that secures the consensual politics characteristic for small state corporatism (Katzenstein, 1984). Thus, for example, the Swiss

55 Germany has a population of 81.8 million (DESTATIS, 2012a), Austria's population is 8.42 million (Statistik Austria, 2011b) and Switzerland's 7.95 million (Schweizerische Eidgenossenschaft, 2012b). However, while Austria and Switzerland are small in comparison to Germany, they do not fall within the category of micro-states (i.e., states with a population below 1.5 million) (see Bray and Packer, 1993; Mayo, 2010 on the specificities of education in micro-states).

political system entails numerous veto points such as the strongly institutionalized referenda.

I argue that the theory of small state corporatism represents a fitting complement to the theory of Varieties of Capitalism, for example since the literature on the latter typically refers to large political economies (such as the US and the UK as the prototypes for LMEs and Germany and Japan as the prototypes for CMEs). While Katzenstein (1984, 1985, 2003) did not look specifically at education,[56] I will try to show that small state corporatism offers a useful framework for analyzing institutional change in the relationship between VET and HE in Austria and Switzerland and also for comparing these two cases with the German one. Thus, inspired by Katzenstein's analysis, *I expect that small state corporatism in Austria and Switzerland influences the institutionalization of hybrid organizational forms due to the specific culture and mode of coordination in small tightly coupled but globally open economies (Country Differences Hypothesis III).* In other words, I expect small state corporatism to be one of the key explanatory factors for the differences observed in the national trajectories of hybridization in the three countries under observation. For example, given the culture of consensus in small state corporatism, it is likely that the implementation of the hybrid organizational forms in Austria and Switzerland is in line with this specific corporatist culture and, therefore, to some extent running smoother than in Germany.

The Differential Impact of Europeanization

Beyond the individual national contexts, in the last decades the Europeanization of educational policies has been gaining in strength and has become one of the key drivers of institutional change in Europe's national education systems (see Chapter 5 on Europeanization). While Germany, Austria, and Switzerland have relatively similar systems in comparison to the other European education systems, in the following I show that their relationship to the European Union (EU) and European educational policies differs starkly. Thus, it is to be expected that Europeanization is affecting each of the three countries in a different way. This could lead to divergences in the national development of the three education systems over time. Beyond that, recent European initiatives like the Bologna process (from 1999), the Copenhagen process (from 2002), and the European Qualification Framework (EQF, from 2008) are, amongst other things, intended to foster greater permeability between VET and HE. This, in turn, can be expected to have an effect on

56 Katzenstein's book "Corporatism and Change – Austria, Switzerland, and the Politics of Industry" (Katzenstein, 1984) offers in-depth case studies of institutional change in, e.g., the textile industry and the steel and watch-making industries.

hybrid organizational forms, as these are located between these two organizational fields.

In the following I, firstly, present some general concepts and caveats applying to the study of Europeanization. Secondly, I refer to organizational institutionalism and historical institutionalism to derive preliminary hypotheses about the role of European educational policies in explaining inter-country differences in the relatively similar systems of Austria, Germany, and Switzerland.

1) Europeanization: Concepts and Caveats

According to Mayntz (1998: 5) the EU represents a new, transnational governance structure that can best be defined as a complex multi-level system: "The European Union is decidedly more than a regime, a conceptual frame or a negotiating arena, but it is as clearly not a federal state" (Mayntz, 1998: 5). Europeanization is often addressed as the domestic adaptation to European regional integration (Vink and Graziano, 2007: 7). However, more generally,

> Europeanization consists of processes of a) construction, b) diffusion and c) institutionalization of formal and informal rules, procedures, policy paradigms, styles 'ways of doing things' and shared beliefs and norms which are first defined and consolidated in the EU policy process and then incorporated in the logic of domestic (national and subnational) discourse, political structures and public policies. (Radaelli, 2004: 3)

Obviously, Europeanization is not a one-way causal relationship (Powell and Graf, 2009). Rather, Europeanization is an interactive, reciprocal process between the EU and the member states (e.g., Trampusch, 2008: 578). Due to this reciprocity, institutional elements that characterize classic national models of skill formation can also be rediscovered within the emergent European model of skill formation (see Powell, Bernhard, and Graf, 2012b). The focus in this book is not on the construction of European educational policies as such, but on their varying impact in Austria, Germany, and Switzerland. However, some understanding of the development and governance of these policies at the European level is still essential in order to contextualize their implementation in the member states (see Chapter 5 on the construction of European educational policies).

Generally speaking, Europeanization should not be treated as a major independent source of change given the variety of factors driving institutional change at the national level that intermingle with the national implementation of European policies (Goetz, 2000; Olsen, 2002). Thus, the national implementation of European educational policies is often driven by domestic actors who are trying to advance their own cause (see, e.g., Baethge, Solga, and Wieck, 2007 on the dual VET system in Germany). Europeanization of national education systems can also represent a window of opportunity for

national actors to handle national crises in the education system. Often, national actors interpret the Europeanization processes in a way that legitimizes their domestic reform interests (see, e.g., Busemeyer, 2009c on the Europeanization of German VET as a "Stellvertreterdebatte" or "pretext discussion").

Another caveat with regard to European educational policies and much of the current research on this topic is a sometimes naive optimism about what nations can learn from each other considering that national institutional structures (e.g., the national education/labor market nexus) differ significantly and are only dimly understood (see Levin, 1998 for a discussion of the limits of cross-border mutual learning in education policy). It can be argued that the degree of friction at the national level in the implementation of the current Europeanization processes is an indicator for the strength of the institutional forces working towards stability within the national skill formation systems (see Chapters 6–8). At the same time, it should be noted that European countries and national actors can learn from an international comparison (e.g., in terms of the transfer of perceived best practices) without any necessary convergence in their national institutional structures (i.e., mutual learning need not lead to the same outcome) (see Sorge, 1994: 73; Powell, Graf, Bernhard et al., 2012 on France and Germany).

Keeping these caveats in mind, I next discuss what organizational institutionalism and historical institutionalism can contribute to our understanding of the differential impact of Europeanization processes in Germany, Austria, and Switzerland.

2) The Diffusion of European Goals, Norms, and Directives (Organizational Institutionalism)

A variety of international organizations (e.g., the International Labor Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank, and the World Trade Organization (WTO)) are becoming increasingly active in the domain of education (see, e.g., Leuze, Martens, and Rusconi, 2007). Two concrete examples are the international comparisons of education systems carried out by the OECD (see, e.g., Martens, 2007; Chapters 6–8) or the General Agreement of Trade in Services (GATS). The GATS is a treaty of the WTO that to some extent also applies to education (e.g., Scherrer, 2007, see also Chapter 6). The world polity approach argues that international organizations carry educational ideals related to, for example, citizenship, "equality of educational opportunity," and lifelong learning (see, e.g., Jakobi, 2009; Finnemore, 1993; Meyer, Frank, Hironaka et al., 1997), as well as marketization (see, e.g., Graf, 2009). Thus, these international organizations facilitate the diffusion of ideas and norms around educational models (see, e.g., Baker and LeTendre, 2007: 243).

Such ideas and norms are also apparent in European policy processes and filter through to practices of educational organizations (see Powell, 2009a: 2). While some authors tend to perceive Europeanization as a distinctive source of institutional change (see, e.g., Enders, 2004 on Europeanization as regionalization; see also Olsen, 2002), the proponents of the world polity approach usually emphasize the growing similarity between what is going on in Europe and in other parts of the world (see, e.g., Meyer, 2001).

Table 6 illustrates the "world institutionalization of education approach", which can be used to argue that educational organizations in Austria, Germany, and Switzerland are strongly affected by world culture through normative and mimetic isomorphism transmitted prominently through Europeanization processes (see DiMaggio and Powell, 1983 on the concept of isomorphism). More generally, DiMaggio and Powell (1983: 154–156) argue that relevant factors for the intensity of such isomorphic change include the degree of uncertainty about best practices,[57] the number of alternatives available, the level of routine interaction between organizations, the extent of professionalization, and the moderating influence of the state. Here, the state is assumed to play a crucial role as it aims to maintain or elevate its legitimacy within the nation-state system by conforming to world cultural norms (Meyer and Ramirez, 2007), promoted, for instance, through deliberative mechanisms like the open method of coordination in Europe (see Dobbin, Simmons, and Garrett, 2007 for a comprehensive review of models of policy transfer). From

Table 6: The diffusion of global educational norms

	The world institutionalization of education*
Type of explanation	Legitimation explanation at international level
Institutional dimensions	Cultural-cognitive and normative
Origins	Sociological institutionalism
Key level of analysis	World polity/culture and nation-state system
Focus of analysis	Global diffusion of "world culture"; nation-states' striving for legitimacy
Key mechanisms	Activities of international organizations; state policies; long-term global diffusion and institutionalization
Authors (example)	Meyer & Ramirez (2007)

* This table is a companion to Table 5 (more specifically, linked to the middle column "Education as a legitimation system").

Source: Author's illustration; see Meyer and Ramirez (2007); Baker and LeTendre (2007); Jakobi (2009)

57 In this context, it can also be argued that the Bologna and Copenhagen processes represent "unsettled times" (a term coined by Swidler, 1986) that offer an opportunity to search for evidence "showing what courses of action require no special justification or explanation because they are altogether 'natural' or 'right', and what courses of action, whether approved or not, require special justification and explanation" (Turner, 1960: 867).

this perspective, it can be argued that the Europeanization processes in the field of education provide an explicit order from which states can "copy and paste" the currently dominant educational model (Powell, Bernhard, and Graf, 2012a). The state then translates these cultural norms into policies and this may exert significant isomorphic pressure on educational organizations (see, e.g., Krücken, 2007).

While the framework of world institutionalization broadly suggests the convergence of national education systems, it nevertheless allows for legitimate diversity within the frame of world culture (that is, however, broadly oriented towards modern Western culture) (see Meyer and Ramirez, 2007). In this context, I argue that whether and to what extent nation-states are open to the diffusion of European cultural norms depends crucially on the specific nation's relation to the EU. In other words, differences with regard to the impact of European educational processes are influenced by variations in the relation of a particular country towards the EU and, more generally, by the "extent and character of national links to world society" (see Meyer and Ramirez, 2007: 286).

This draws attention to Germany as one of the most dominant players within the EU, Austria as a relatively small member that entered the EU only recently, and Switzerland (also a small country) as a non-EU member but affiliated to some of the EU's policies. While Germany was a founding member of the European Economic Community (Treaty of Rome, 1957), the European Communities (1967), and the EU (1992), Austria only joined the EU in 1995. Switzerland is a non-member but nevertheless profoundly affected by EU policies and strongly interwoven with the EU through a vast range of (bilateral) agreements. For instance, Kriesi and Trechsel (2008: 186–189) argue that Switzerland has reached a level of integration that can be characterized as "customized quasi-membership."

European educational policies are not confined to the members of the EU. For instance, both the Bologna process and the Copenhagen process have also been signed by European countries that are non-EU members. Switzerland, for example, (like Germany and Austria) has been a full member of the Bologna process since 1999 (European Ministers of Education, 1999). Yet, while Austria and Germany are also founding members of the Copenhagen process, here Switzerland merely holds observer status (BBT, 2012) and, arguably, picks up EU VET policies more selectively (see Bieber, 2010 on the Swiss case).

The readiness with which countries adopt European educational policies is shaped by the interaction of a variety of factors. For instance, the diffusion of European educational standards is likely to depend on whether a country is a member (Austria, Germany) or a non-member (Switzerland) of the EU, whether it is a founding member (Germany) or a relatively new member (Austria), or whether it is a big player (Germany) or a small player (Austria)

within the European policy-making process. Chapters 6–8 discuss differences in the degree of European integration of Austria, Germany, and Switzerland further with regard to European educational policies. Generally speaking, I expect that *the different position each of these countries holds in relation to European educational processes is one of the major differentiating factors with regard to the "isomorphic" impact of these processes on domestic developments (Differential Impact of Europeanization Hypothesis I).*

My last hypothesis with regard to the differential impact of Europeanization once again derives from the theory of small state corporatism.

3) Europeanization and the Impact of Small State Corporatism (Historical Institutionalism)

Historically evolved national skill formation systems will most likely react to exogenous pressures related to European educational policies in ways largely consistent with their specific cultural and structural characteristics (see, e.g., Krücken, 2003 on the role of path dependence in university structures). In the context of Europeanization, Katzenstein (2003: 17) argues that it "serves" small European states as a functional equivalent to the exogenous influences in the 1930s and 1940s (Katzenstein, 2003: 21). That is, Europeanization activates "deeply seated institutional memories and practices" (Katzenstein, 2003: 21) such that "increasing Europeanization strengthens corporatist tendencies in the small European states" (Katzenstein, 2003: 25). This would suggest that Europeanization plays out differently in Austria and Switzerland than in Germany, which is larger. Specifically, *it is to be expected that Austria and Switzerland are in a better position than Germany to develop a consensual response to the influences of Europeanization (Differential Impact of Europeanization Hypothesis II).*

Summary

This chapter has developed a number of expectations with regard to plausible developments at the nexus of VET and HE in the DACH countries. Table 34 (see Appendix 11.5.1) provides a tabular overview of the main hypotheses and scenarios presented in this chapter. In Part I, I discussed examples of arguments that suggest that the institutional divide between VET and HE is likely to persist. In Part II, I developed hypotheses and scenarios that point to a gradual institutional change in the form of hybridization as well as arguments for expected country level differences. While the discussion in Part I provided more general background information, it is the hypotheses and scenarios developed in Part II (especially the Hybridization Hypothesis) that serve as guidelines for Chapters 6–8. That is, the empirical analysis focuses on a test of the hypotheses and scenarios developed in Part II, while the Stasis Hypotheses I–III (Part I) are not directly tested in the empirical chap-

ters. However, in the concluding discussion (see Chapters 9 and 10) the Stasis Hypotheses I–III are revisited in light of the observed processes of hybridization.

4. METHODS AND DATA

In consideration of the theoretical framework outlined above, below I will describe my research strategy, methods, and data.[58] This chapter covers four broad themes: (1) country case studies and process analyses, (2) a comparative-historical analysis between countries, (3) the analysis of Europeanization in this study, (4) the role of the expert interviews in this study, and (5) document analysis and further data sources. First, however, the research process and the relevant levels of analysis will be outlined.

I began the research process by reviewing the available secondary literature and intensively studying the different approaches in neo-institutional theory so that I would be able to broadly define the research problem (see Chapter 1). This first step was intended to ensure a good fit between the theoretical framework and the selected cases (see, e.g., Yin, 1994 on case selection). Next, I collected my own data during the fieldwork phases in Austria, Germany, and Switzerland. This data enabled me both to refine my theoretical framework and to trace the central historical processes in each of the three cases (see "Country Case Studies and Process Analysis" below). After that, I wrote the comparative chapter in which I point out major similarities and differences between Austria, Germany, and Switzerland (see the "Comparative-Historical Analysis between Countries" section below).

While this book puts a special emphasis on the meso levels of analysis (*organizations* and *organizational fields*), it also refers to the macro levels (*global*, *European*, *national*) and to some extent the micro level (*individuals*) (see Table 7 for an overview).

Table 7: Levels of analysis

Level	Description
Macro levels	Global
	European
	National
Meso levels	Organizational field
	Organization
Micro level	Individuals

Source: Author's illustration

The macro levels provide the background for institutional changes at the meso levels. Broadly speaking, the country case studies focus more on the

58 Some of the methodological elements in this book have already been discussed above (see, e.g., Chapter 2 regarding the case selection and Section 3.3.4 regarding the temporal phases).

two meso levels, while Chapter 9 shifts the focus more to the national and European levels. The micro level is covered indirectly in terms of aggregated participation rates.

Country Case Studies and Process Analyses

The case studies cover the time period from the genesis of the hybrid organizational forms (with a focus on the second half of the 20th century) to the current phase of Europeanization (up to mid-2012). The starting points for the three process analyses are not exactly the same, as the relevant organizational forms were not created at precisely the same time. In this context, institutional change is defined in terms of how much variation occurs over a given period of time and is not seen as a dichotomous but rather as a continuous variable (see Campbell, 2004).[59] To account for institutional change, I rely on systematic process analysis, which has special value for developing theory-oriented explanations in the context of small-n case studies (Hall, 2008). Process tracing refers to the analysis of sequences of events to explore the relevant linking mechanisms and intervening processes in specific cases (Mahoney, 2004: 88–89). According to Gerring (2007: 20, emphasis in the original), "[a] *case study* may be understood as the intensive study of a single case where the purpose of that study is – at least in part – to shed light on a large class of cases (a population)." For each case, my goal is to offer a narrative account of crucial sequential events (or processes) that contribute to an understanding of a particular outcome. Ideally, each significant historical step towards the outcome is explained by reference to a theory or theories (George and Bennett, 2005: 30; see also Bennett and Colin, 2006). In my case these are historical institutionalism and organizational institutionalism.[60] Emphasizing processes over time stresses the fact that the relative timing of events can play a crucial role in the explanation of a particular outcome (Mahoney and Rueschemeyer, 2003: 13). Thus, things that occur earlier often enjoy a first mover advantage (for a discussion, see, e.g., Pierson, 2000; Thelen, 2000). This aspect will be of special importance to my analysis of the Bologna process for HE (introduced in 1999) and the Copenhagen process for VET (introduced three years later in 2002). While the basic structure of the three country case studies (Chapters 6–8) is the same, the case studies are still to some extent exploratory in nature and take the reader to those process-

59 Similarly, Scott (2008: 50) describes institutions not as a property, but as a process, referring to the phenomena of institutionalization and deinstitutionalization (see also Brint and Karabel, 1991 on the concept of institutional genesis).

60 Here, this book also aims to contribute to the so-called "second movement" in institutional analysis that tries to advance the collective enterprise of proponents of different types of institutionalism (Campbell, 2004: viii). An operationalization of the concept of institution – i.e., of its regulative, normative, and cultural-cognitive dimensions – can be found in Section 3.1.

es and organizational forms that are most relevant to the research puzzle addressed in this book. However, the comparative analysis (Chapter 9) is then systematized and pulls together all the relevant threads from the country chapters.

Comparative-Historical Analysis between Countries

Examples of comparative-historical studies of national education systems include Archer (1989, 1984) on the social origins of education systems in England, Denmark, France, and Russia, and Thelen (2004) on the evolution of VET in Germany, Britain, the US, and Japan. Comparative-historical analysis is characterized by "a concern with causal analysis, the exploration of temporal processes, and the use of systematic and contextualized comparison typically limited to a small number of cases" (Mahoney and Rueschemeyer, 2003: 14). I apply a "middle-range" theoretical approach to acknowledge that causal models may vary over time as well as in specific national institutional contexts (see Campbell, 2004: 42). That is, I aim to identify the crucial elements in the causal chain generating institutional change in the relationship between VET and HE in Austria, Germany, and Switzerland. Correspondingly, I attach special importance to specifying mechanisms that influence my dependent variable, i.e. the institutional linkage between VET and HE (and the pattern in which it changes). As Austria, Germany, and Switzerland have relatively similar systems (see Chapters 1 and 2), it then becomes possible to draw inferences about general causal patterns that apply to all three countries.[61] However, a similar system design (the so-called "method of difference") in the strict sense as proposed by Mill (1879) is not applied here. Rather, in this study in-depth historical case studies of Austria, Germany, and Switzerland are carried out to find out to what extent these countries – which indeed may look alike in a global comparison – really do resemble each other with regard to developments in the institutional relationship between VET and HE. Furthermore, the cross-national comparison of a small number of cases allows me to develop new concepts as I refine theoretical expectations in the light of the empirical findings (see Mahoney and Rueschemeyer, 2003: 13). As far as organization theory is concerned, my study is sensitive to organizational heterogeneity in the cases of Austria, Germany, and Switzerland. In fact, since the late 1970s, theories of organizations have tended to move away from organizational heterogeneity as most scholars in organizational theory have prioritized "abstraction over

61 In addition, the intra-group comparison of the three relatively similar skill formation systems of Austria, Germany, and Switzerland can help to identify institutional conditions that are conducive to an increase in permeability between VET and HE. On the concept of *Gelingensbedingungen*, i.e. conditions that help to overcome inequality-generating mechanisms, see Solga, Brzinsky-Fay, Graf et al. (2013). For an application of the concept to the development of dual study programs, see (Graf, 2013b).

contextual specificity" and focused on explanations of homogeneity (King, Felin, and Whetten, 2009: 4). In contrast, Chapter 9 looks at spatial and temporal variation to explain specific national patterns of organizational development (see Aldrich, 1999) at the nexus of VET and HE and with regard to hybridization.

The Role of Europeanization in this Study

Europeanization processes play an important role both in the country case studies (see Chapters 6–8) and for the comparative historical analysis (see Chapter 9). Each of the country chapters has one section in which the role of current Europeanization processes, like the Bologna process and Copenhagen process, on the hybrid organizational forms is analyzed. However, as chapters 6–8 illustrate, European educational policies already played a significant role prior to the latest surge of Europeanization in the field of education since the late 1990s. Therefore, Chapter 5 provides a history of Europeanization that locates European educational policies within more global developments and, thus, facilitates an assessment of the impact of current Europeanization processes in the subsequent country-specific chapters. Moreover, the analysis of the impact of Europeanization on Austria, Germany, and Switzerland is one of the key themes in Chapter 9. As all three countries are embedded within a European context, the impact of an exogenous influence such as Europeanization reveals critical information about the specific character of hybridization between VET and HE in these supposedly similar systems. The making of Europeanization processes is obviously also in some way shaped by the countries that take part in these processes. While Chapter 5 touches on this issue, a detailed analysis of the political process that determine(d) European educational policies is beyond the scope of this study. Rather, in this book Europeanization is analyzed to the extent that it influences processes related to hybridization in Austria, Germany, and Switzerland.

The Role of the Expert Interviews in this Study

The scope and complexity of this research project is to some extent limited on account of an explicit focus on the evolution of the educational schism between VET and HE and especially those organizational forms most relevant for a description of hybridization in each of the cases. At the same time, educational organizations can mean very different things in different countries, even if the degrees and certificates they award and their locations within international qualifications suggest equivalence. Therefore, a dense description of the relevant organizational forms and their cultural embeddedness is essential in order to enable a comparison. For this purpose, my most im-

portant data source are 40 semi-standardized expert interviews[62] (with a total of 48 experts) conducted in Vienna, Bern, Zurich, Bonn, and Berlin with responsible stakeholders in state ministries, representatives of employer and employee associations, managers of educational organizations, and senior researchers. The interviews were essential to establish and explore pertinent developments at the nexus of VET and HE and especially to grasp contemporary change processes in an era of Europeanization.

The interviews lasted for at least 45 minutes each and in some cases up to two hours. The number of experts per interview ranged between one and three. However, when more than one expert took part in an interview, all of them still represented one particular organization. In total, 11 interviews were conducted in Austria with 14 experts, 11 interviews in Germany with 12 experts, and 18 interviews in Switzerland with 22 experts. My goal was to arrive at a representative sample of important stakeholders in each country. Appendix 11.1 contains a detailed list of the expert interviews. Due to the complexity of the Swiss case (e.g., considering the prevalence of several languages and corresponding cultural regions), more interviews were conducted in Switzerland than in the other two cases. My choice of experts was influenced by the specificities of the skill formation system in question as well as the analytical focus that I gradually developed for each country.

I perceive an expert as a person who has a specific knowledge that not necessarily she or he alone possesses, but to which not everyone interested in the topic has direct access (Meuser and Nagel, 2009: 37). Thus, the experts were also chosen on the basis of the person in question's social representativeness (Bogner and Menz, 2005: 41). In this context, I regard an expert as a representative of the activities and perspectives of a particular organization or group of experts (Kruse, 2010: 57). That is, I understand the expert as being embedded within his or her organizational and institutional context (Meuser and Nagel, 2005: 72). This is important for contextualizing the reference group in which the expert establishes his or her expertise (Meuser and Nagel, 2009: 51). All interviews are treated anonymously. In the analysis, the expert interviews are referred to by the country abbreviation plus a number that can be used to check the date of the interview. In Appendix 11.1 I list the organizations the interviewed experts represent (sorted by country). Many of these organizations are introduced in detail in the respective country chapters. Despite the anonymization, my interpretation of the expert interviews always (at least implicitly) takes into account the specific role the respective expert's organization plays within the national education system.

The interviews were divided into the following four blocks of questions: Firstly, I asked the experts questions about the current situation and institutional changes in the relationship between VET and HE in their national

62 See Meuser and Nagel (2009: 51–52) and Sußner (2005: 11) on semi-standardized expert interviews.

system. The second round of questions addressed the role of Europeanization in this context. The third block covered more specific questions on potentially hybrid organizational forms at the nexus of VET and HE. Finally, the interviewees were asked to provide a general outlook on the current and future development of their skill formation system and to point me to any relevant aspects that I may have failed to address. As an illustration, Appendix 11.2 sets out the interview questions for Germany.

My analysis of the expert interviews roughly follows the six steps proposed by Meuser and Nagel (2009: 56–57): (a) transcription, (b) paraphrasing, (c) coding (ordering of thematic passages), (d) thematic comparison (clustering of similar passages from all interviews), (e) sociological conceptualization (scientific abstraction from original interview), and (f) theoretical conceptualization (presentation of findings from a theoretically-informed point of view). In the few cases in which the expert did not consent to being recorded, I took notes during the interview and paraphrased these on the same day. All the interviews were held in German. Passages from the interviews quoted in the following were translated by the author.

Document Analysis and Further Data Sources

In addition to drawing on expert interviews and available secondary sources, the study at hand also builds on an analysis of primary and grey literature. A number of official documents by national stakeholders in the skill formation system were analyzed. These include statements by state ministries, political parties, social partners, and educational organizations themselves (see Chapters 6–8 for details). The analysis of the official European documents in the Bologna and Copenhagen processes is partly informed by theory-guided qualitative content analysis (see Gläser and Laudel, 2009). This implies generating a set of categories to code and analyze relevant text passages in the original as well as the follow-up declarations and communiqués of the Bologna and Copenhagen processes (see Powell, Bernhard, and Graf, 2012b: 5–6 for details).

As regards specific quantitative data and participation rates in particular, it is often very difficult to find internationally comparable data especially given the variety of organizational forms in the field of initial and continuing vocational education and training. It is even difficult to find comprehensive data that include VET and HE as well as upper- and post-secondary education for each single national case. (This can be interpreted as yet another indication of the educational schism.) Also, international data sources provided by organizations such as the OECD, Eurostat, Eurydice, and Cedefop (on which I partly rely in Chapters 6–8) often only provide a limited range of indicators. Moreover, the gathering of comparable data for the Swiss case is further complicated due to Switzerland not being a member of organizations

such as Cedefop (European Centre for the Development of Vocational Training).

At the national level, I used datasets from the three countries' national statistical offices, namely *Statistik Austria* (Austria), *Statistisches Bundesamt* (Germany), and *Bundesamt für Statistik* (Switzerland), as well as from the state ministries responsible for education (see country chapters for details). Furthermore, I used data generated or provided by national agencies specialized in the field of education and training. Examples include the Institute for Research on Qualifications and Training of the Austrian Economy (*ibw*) and the Institute for Advanced Studies (IHS) in Austria, the Federal Institute for Vocational Education and Training (BIBB), the Higher Education Information System (HIS), and the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (*Kultusministerkonferenz*, KMK) in Germany, as well as the Swiss Conference of Cantonal Ministers of Education (EDK) and the Federal Office for Professional Education and Technology (BBT) in Switzerland. In addition, the websites of the various educational organizations represented in this book were a useful source when it came to gaining a first impression of their key characteristics and structural set-up.

In as far as it is necessary to provide specific information and data on specific educational organizations, there are some differences between the three country chapters. For example, in one country more information may be available on stakeholders in the VET system at the upper-secondary level (Austria), while in another the main focus is mostly on actors at the post-secondary level (Germany). Also, when specific organizational forms, say traditional universities, have already been described in a previous country-specific chapter and do not differ in a significant way in the other DACH countries, then this basic description is not necessarily repeated. Key similarities and differences between the three country cases, also with regard to the impact of current Europeanization processes, are explored in Chapter 9. Finally, official translations of the names of the various relevant organizational forms in the education systems of Austria, Germany, and Switzerland are used whenever these are available. Unfortunately, official translations are sometimes not available, in which case a translation that best reflects the subtle differences between similar organizational forms in these three countries was chosen. The Appendices provide a list of key translations (Appendix 11.6) and a list of abbreviations (Appendix 11.7).

The next chapter is the first empirical chapter and introduces important background information on the historical development of European efforts to establish links between the national education systems in Europe and to create a common European educational space.

5. THE EUROPEAN CONTEXT

In Chapter 3 I already introduced some general theoretical considerations and caveats regarding the study of Europeanization. This chapter describes Europeanization policies in the field of education with a focus on those elements that are most salient for the specific set of countries under consideration. It prepares the ground for the analysis of the impact of Europeanization in the three country-specific chapters. Firstly, I offer a short account of the origins and history of European education policies from the 1950s up to the signing of the Bologna Declaration in 1999. This pre-Bologna history is essential to understanding why the late 1990s signified a milestone in the Europeanization of national education systems. Beyond that, in my three country cases I found that the relationship between vocational education and training (VET) and higher education (HE) had already been affected by Europeanization in this early period of Europeanization. Secondly, the development and central contents of the Bologna process and the Copenhagen process are outlined.[63] In this context, the policy tools most central to the purpose of this study are described in more detail. For the Bologna process, this is the introduction of a two-tiered degree structure (Bachelor and Master degrees) across Europe. For the Copenhagen process, it is the European Qualification Framework (EQF).

5.1 The History of Europeanization in Skill Formation

5.1.1 1957 to 1998: Europeanization prior to Bologna

This section focuses on the origins of the European Union (EU) (e.g., Pfetsch, 2005), European HE policy prior to Bologna (e.g., Hackl, 2001; Walkenhorst, 2008), as well as on European VET policy prior to Copenhagen (e.g., Neave, 1988; Ertl, 2003; CEDEFOP, 2004; Fahle, 2008; Powell and Trampusch, 2012). My goal is to highlight those historical elements in the Europeanization of skill formation that are most relevant for an integrated analysis of both HE and VET. Thus, this chapter – like the book as a whole – adopts an integrated perspective on VET and HE.

The project of post-World War II European unification is, at root, an economic one, as the EU (established under its current name in 1993) traces its origins to the European Coal and Steal Community (1951) and the European Economic Community (EEC) (Treaty of Rome, 1957). Ertl (2003: 17)

63 These processes are still under construction.

observes that "[a]s the Community was primarily regarded as an economic entity, vocational training policy was seen as a mere instrument for encouraging the mobility of workers." The EEC was intended to promote stable economic and political relationships in Western Europe, with the "German-fired" economic post-war boom being both "cause and effect" for its formation (Gillingham, 2003: 4). Ever since the Treaty of Rome, which established the EEC in 1957, the so-called readability of qualifications has been part of the European integration process (Bouder, Dauty, Kirsch et al., 2008: 1). Thus, with regard to skill formation the Treaty of Rome refers to the recognition of qualifications to facilitate the free movement of labor (e.g., Balzer and Rusconi, 2007: 61).

The key instruments at the time were directives on the recognition of professional qualifications. In fact, the creation of principles for the recognition of professional qualifications was the first attempt to bring the national education systems of the European Communities closer together. In this context, recognition means that the receiving country allows the qualification certificate from the country of origin to be accepted in place of its own (Seifert, 2004: 11). This recognition procedure is highly relevant for qualified individuals seeking international mobility within Europe (see Hauser, 2008: 7). However, it took some time before the first concrete policy measures were put into practice. A directive on the mutual recognition of diplomas was passed in 1974 (Hackl, 2001: 7). This directive was implemented in regard to specific professions, primarily in the medical and health professions in which the cross-border movement of labor had played a significant role for a long time (Hackl, 2001: 8). The directive was successively implemented for each of these professions (Hackl, 2001: 8). Eventually, such automatic recognition became applicable to doctors, dentists, veterinaries, nurses, midwives, pharmacists, and architects (Seifert, 2004: 13).

However, a shift to a second generation of directives on the recognition of professional qualifications took place in the 1980s (Paulsen, 2007: 25). A sectorial system of recognition gave way to a general system of recognition as actors realized that extending the old system to other professions was not feasible due to the vast and historically evolved differences in occupational profiles (see Seifert, 2004: 14). Thus, in 1988 a new directive (Directive 89/48/EEC) was adopted that established a "general system for the recognition of higher-education diplomas awarded on completion of professional education and training of at least three years' duration" (Council of the European Communities, 1988: 16). This new directive essentially applied to any holder of a certificate that shows that the person "has successfully completed a postsecondary course of at least three years' duration, or of an equivalent duration part-time, at a university or establishment of higher education or another establishment of similar level and, where appropriate, that he has successfully completed the professional training required in addition to the

post-secondary course" (Council of the European Communities, 1988: 17). For the first time, this provided a general legal basis for the recognition of professional qualifications between the member countries. The general system, in contrast to automatic recognition, means that the host country is obliged to test foreign qualification certificates for equivalence (Seifert, 2004: 15).

One of the foremost consequences of this new and far more wide-ranging Directive 89/48/EEC was that countries became increasingly aware of the need to understand foreign qualifications and to position their domestic ones. This upsurge in inter-country comparison was particularly germane in the case of the three countries under consideration in this study given that in these (a) the standard length for the first university degrees was longer than three years, and (b) a number of professions that are taught at post-secondary or HE level in other member countries were (and often still are) taught in the VET system at upper-secondary level (see Hackl, 2001). The Directive's focus on learning pathways and degrees had the consequence that general school-based education and HE programs were rated higher than VET programs involving firm-based training (see Trampusch, 2008: 587 on Germany). In this context, Hackl (2001: 8) observes that countries "which previously used only secondary level training for certain professions, have been required to develop new higher education courses," namely "Austria, Finland, Italy but also Switzerland although not a member state" (Hackl, 2001: 35). The impact of Directive 89/48/EEC is elaborated in further detail in Chapters 6–8. The most recent follow-up Directive 2005/36/EC was implemented in 2005. It summarizes and simplifies a number of specific directives, such as Directive 89/48/EEC, on the recognition of professional qualifications (EU, 2005: 23; Paulsen, 2007: 26; see also Pithan, 2008).

Moving back from the directives for the regulation of professional qualifications to a more general description, early European initiatives focused on VET and only gradually expanded to HE (Neave, 1988; Walkenhorst, 2008: 571). Since the mid-1980s the depth and breadth of European involvement in VET and HE has expanded (see Fahle and Thiele, 2003: 9). This is also evident from an increasing number of European initiatives and projects in the field of VET and HE. Examples are the Comett program (European Community Programme in Education and Training for Technology) established in 1986 and the Erasmus program (European Action Scheme for the Mobility of University Students) established in 1987 (Ertl, 2003: 20). As a result, initiatives and policies such as these were now backed up by considerable financial resources (Neave, 1988: 100).

In the 1980s the European Commission had significant power to implement legally binding acts in education (see Ertl, 2003: 19), which it did not after the Maastricht Treaty of 1992 that established the EU (Balzer and Rusconi, 2007: 62). The Maastricht treaty emphasized the applicability of the

subsidiarity principle in the field of education. Subsidiarity refers to the principle "whereby the Union does not take action (except in the areas that fall within its exclusive competence), unless it is more effective than action taken at national, regional or local level" (EU, 2012b) (the aforementioned directives are an exception to the principle of subsidiarity). Nevertheless, the Commission continued to seek and extend its influence in education policies, above all to contribute to the functioning of the new Single Market (see Walkenhorst, 2008: 571). Yet, while the Commission aimed to reposition itself as an important actor in the field of educational policy (Balzer and Rusconi, 2007: 63), local actors and especially the German *Länder* demanded clarification of the educational competences at European level as stipulated in the Maastricht Treaty (Walkenhorst, 2008: 578). In sum, these developments led to the invention of a new mode of governance in European education policy as described below.

5.1.2 1999 to Present: Europeanization since Bologna and Copenhagen

The Bologna Declaration was signed in 1999 by education ministers from 29 European countries to establish a Europe-wide HE area. Today it has 47 signatories (European Commission, 2011a). Three years later, in 2002, the Copenhagen Declaration was signed by 31 ministers to enhance European cooperation in VET. To date, 33 countries have signed this Declaration (European Commission, 2011d). One of the hopes connected to this intensified cooperation in the field of education is that it will promote the cross-border mobility of labor, which, in turn, is a crucial factor for ensuring a sound functioning of the envisaged European Single Market (see, e.g., Kraus, 2004: 155).

The Bologna process originates from a 1998 intergovernmental initiative (Sorbonne University, Paris) launched by France, Germany, Italy, and the UK, which was taken up by 25 further countries and the European Commission in 1999 in Bologna. In contrast, the Copenhagen process, which is a direct product of the Lisbon Summit, was initiated by the European Commission and was from the beginning connected to the European institutions (Balzer and Rusconi, 2007: 70). Both processes are monitored by way of the open method of coordination (see below).

Most prominently, the Bologna process promotes a two-tiered degree structure as well as a European Credit Transfer System (ECTS) (see Brändle, 2010 for a full list). The Copenhagen process brought forward the European Qualification Framework, the European Credit System for Vocational Education and Training (ECVET) (see Dunkel and Le Mouillour, 2007), the European quality assurance framework for VET (EQAVET), and the Europass

(CEDEFOP, 2010: 20). Both processes represent a general shift towards outcomes when it comes to the evaluation and comparison of learning (see Allais, Young, and Raffe, 2009 on the EQF). The focus on learning outcomes is expected to deal with the challenge represented by the fact that the actual structures of the education systems in Europe differ vastly. In this sense, learning outcomes are seen to signify the lowest common denominator for a common European framework in the field of education (Dehnbostel, 2011: 6). The joint relevance of Bologna and Copenhagen is exemplified in the European Commission's intention to link the two processes – with the help of methods or measures like the Europass or the EQF – to establish synergies on such important issues as transparency, recognition of competences and qualifications, and quality assurance (European Commission, 2009). In contrast, Kuda and Kaßebaum (2012: 70) emphasize that the Bologna process and the Copenhagen process – due to the differences in their organizational setup – have not been directly linked in their initiation and implementation phases. Beyond that, some authors argue that the divide between VET and HE is extended to the European level as there is one specific process for each organizational field (e.g., BIBB, 2002: 12).

Both the Bologna and the Copenhagen process are intended to facilitate mutual learning and the adoption of best practices among the European countries in the fields of HE and VET (Bernhard, Graf, and Powell, 2010). Beyond that, they both aim to use the above-mentioned instruments to increase permeability between the organizational fields of VET and HE (e.g., Powell and Solga, 2010; Bernhard, Graf, and Powell, 2013). An analysis of the official declarations and follow-up documents in these two processes in combination allows a description of the emergent European model in skill formation:

> Summarized, the European Model is one that attempts to produce knowledgeable and capable individuals who assume responsibility for their own destinies. They are to be educated in globally competitive universities or in the workplace, where they prepare to continue learning and react flexibly to broad structural changes and labor market demands. This model of skill formation reflected in the pan European documents provides templates for constructing, reforming, or incrementally adjusting national skill formation systems. (Powell, Bernhard, and Graf, 2012b: 249)

The Bologna and Copenhagen processes have been continually developed – and transposed into the nation-states' legislation – with the help of the Open Method of Coordination (OMC). The OMC was officially introduced into EU politics as part of the Lisbon Strategy in 2000. It primarily applies to those policy fields in which the EU has no formal say, such as employment, education, youth, and training. The OMC relies on the following three principles: (a) "jointly identifying and defining objectives to be achieved (adopted by the Council)," (b) "jointly established measuring instruments (statistics, indica-

tors, guidelines)," and (c) "benchmarking, i.e. comparison of the Member States' performance and exchange of best practices (monitored by the Commission)" (all three quotes EU, 2012a). The OMC is frequently described as a soft-law mechanism, whereby "[s]oft governance leaves room for multilevel games and creates opportunity structures enabling domestic actors to use EU initiatives to overcome domestic veto-points and veto-actors" (Powell and Trampusch, 2012: 289). With this new governance mode, Europeanization in the field of education has been increasing in strength incrementally but forcefully, as the OMC has served to overcome a national reform backlog in the implementation of European policies (see Chapters 6–8).

Enders (2004: 375) characterizes the cooperation between countries in the Bologna process as "a voluntary process, not binding and thus with no legal consequences for countries."[64] Yet, while *de jure* there are no sanctions involved in the Bologna process, *de facto* the member states are integrated into political structures that delimit their options (Serrano-Velarde, 2009: 197–198). Both the Bologna and the Copenhagen process are based on voluntariness but are increasingly subject to monitored coordination that significantly influences the education policies in the participating countries (see Ravinet, 2008 on Bologna).

The current (1999–present) stage in European educational policies is driven by sectorial change in the economy, globalization, as well as national reform pressures (Walkenhorst, 2008: 574, 581). In this context, functionalization refers to education being increasingly understood as an instrument for employment and global competitiveness (see Walkenhorst, 2008: 581). However, according to Kraus (2004), EU educational policies also aim to contribute to the building of a European identity that will facilitate the European integration process.

5.1.3 Summary: Historical Periods

Table 8 summarizes a number of significant developments in the history of educational Europeanization. The table does not cover all relevant developments but the key milestones. Also, while the table identifies central historical events in the form of various conventions, the overall trajectory seems to be one of incremental change, as all these events are firmly grounded in the long-term historical development of European educational policy.

64 Enders (2004: 374–375) refers to this form of governance as "intergovernmental negotiations."

Table 8: Key historical developments in European educational policy

	Key policy method*	Illustration	Key institutional dimension	Relationship between VET and HE
Period I: Genesis and solidification of Europeanization in skill formation (1957-1998)				
Late 1950s onwards (Treaty of Rome, 1957)	Directives	Starting point for the development of recognition of professional qualifications	Mainly regulative	Focus on VET and economic considerations. No attempts to bridge institutional divide between VET and HE***
1980s (Intensification of Commission activities in education)	First European action programs in education	Comett (1986), Erasmus (1987); Directive 89/48/EEC (1988)	Mainly regulative; some first minor initiatives in cultural dimension	Vocational training and general/academic education brought together under a single Directorate in 1981***
(Early) 1990s, founding of the EU in 1992 (Maastricht Treaty)	Subsidiarity principle (still applies)	Stimulation of EU activity framework programs, namely Leonardo da Vinci program for VET and Socrates for HE**	Mainly regulative; to some extent normative and cultural-cognitive in the form of first vague ambitions to develop a European model in education**	Maastricht Treaty dealt with general education for the first time in an explicit way, yet in separate articles and with fewer competencies for the community**
Period II: New "integrated" approach to education in a Europe of knowledge, skills, and competences (1999-present)				
1999: Bologna Declaration on HE	Open method of co-ordination (OMC)	Introduction of two-cycle degree structure	Mainly normative and cultural-cognitive	Bologna process focuses on HE
*2000: Lisbon Strategy****	OMC as a tool for EU policy at all levels	EU to become "most competitive and dynamic knowledge-based economy" (Lisbon European Council, 2000)	Mainly normative and cultural-cognitive	Both HE and VET seen as key building blocks to achieve goals set in Lisbon Strategy
2002: Copenhagen Declaration on VET	OMC	European Qualification Framework (initiated in 2004)	Mainly normative and cultural-cognitive	Main focus on VET but relationship and linkages to HE are central element

* Cf. Bouder, Dauty, and Kirsch et al. (2008: 25); ** See, e.g., Ertl (2003); *** See Neave (1988); **** The Lisbon Strategy (Lisbon European Council, 2000) was replaced by the Europe 2020 Strategy in 2010 (European Commission, 2010).

Source: Author's illustration

The two major periods illustrated in Table 8 differ in the sense that while Period I was predicated mainly on the regulative institutional dimensions, Period II carries a cultural and normative model of education in Europe. This is not an entirely new cultural model but a bricolage of different national models, which makes it easier for national actors located in different institutional settings to borrow and lend from it (see Powell, Bernhard, and Graf, 2012b on bricolage in the emergent European model in skill formation). In this new period more attention is paid to both VET and HE as well as their linkage, for example in the form of the European Qualification Framework (EQF) as the envisaged common reference frame.

Prior to 1981, "education" and "vocational training" were organizationally separated as each was under the purlieu of a different Directorate General. For instance, the Directorate General V (Social Affairs) was responsible for vocational training between 1963 and 1976 and sought to "uphold the historic dichotomy between education on the one hand and training on the other" (Neave, 1988: 102). However, in 1981 "education" and "training" became the responsibility of one single directorate (Directorate General V) and first coordination efforts between both fields took place (see Neave, 1988: 105–109).

The Maastricht Treaty (1992) explicitly refers to general education for the first time and, broadly speaking, prepares the ground for developments such as the Bologna and Copenhagen processes. However, the Maastricht Treaty covered "education" and "training" in separate articles, which has reinforced the divide between these two fields to some extent (see Field, 1998: 62; Ertl, 2003: 25).

The next section focuses on the two key instruments in Period II of Europeanization, namely the two-tiered degree structure in the Bologna process and the European Qualification Framework in the Copenhagen process. These instruments are discussed intensively with regard to the relationship between VET and HE in all three DACH countries (which was confirmed by my expert interviews). It should be noted that these Europeanization processes have not been implemented without challenges from students and university staff. In many European countries, including the DACH countries, students have protested about the national implementation of the Bachelor and Master degrees amidst fears that the governments will use the Bologna reform to reduce spending on education, introduce or increase tuition fees, and generally push the commodification of education systems (see, e.g., Gardner, 2009; see Pongratz, 2009 for a critique of the Lisbon and Bologna reforms). Finally, both key instruments are highly relevant with regard to the hybrid organizational forms that are at the center of this book (see Chapters 6–8).

5.2 Key Instruments in the Bologna and Copenhagen Processes

5.2.1 Bologna and Its Key Instrument: The Two-Tiered Study Structure

The Sorbonne Declaration was signed by the French, German, Italian, and British ministers in charge of HE in 1998. The "smaller" European countries, including Austria and Switzerland, did not necessarily sign up to the follow-up Bologna Declaration in 1999 because they were in favor of all the suggestions made in the Sorbonne Declaration, such as the two-tiered study structure, but because they anticipated the diffusion of this structure and preferred to join early on rather than be left behind (see Ravinet, 2006, 2009).

The Bologna process "is characterized by its flexible and informal nature and by its powerful and swift results" (Ravinet, 2008: 354) and, as such, is also subject to an already extensive and rapidly growing research literature. The Bologna process has been framed in various ways, prominent examples including conceptualizations as a "moving target" (Kehm, Huisman, and Stensaker, 2009) or as a "rational myth" (Schriewer, 2007), as well as a key factor in contributing to a "Europe of knowledge" (Dale, 2010). In fact, with the Sorbonne Declaration the four ministers of education sought to find "an international, rather than national, solution for their higher education problems" (Reinalda and Kulesza, 2006: 101). Beyond that, the Bologna model is seen as a way to increase the global competitiveness of HE systems in Europe and to increase the normative influence of the European HE model also beyond Europe's borders (Hartmann, 2010).

As outlined in the Bergen Declaration of 2005, the two-tiered degree structure is defined in terms of learning outcomes and measured by the European Credit Transfer and Accumulation System (ECTS). The first cycle usually leads to a Bachelor degree (typically 180–240 ECTS credits), the second to a Master degree (90–120 ECTS credits). These two cycles are followed by the Doctoral degree as the third cycle (no credit range assigned) (European Ministers responsible for Higher Education, 2005). Generally, 25–30 hours correspond to one ECTS credit, while the workload for one study year usually ranges between 1500 and 1800 hours (European Commission, 2011b). One of the primary goals of the ECTS credits is to facilitate the transfer of learning outcomes between and within countries (Dunkel and Le Mouillour, 2007: 222).

It did not take long before the surprisingly dynamic evolution of the Bologna process helped to trigger a similar phenomenon in the field of VET – in the form of the Copenhagen process and the EQF.

5.2.2 Copenhagen and Its Key Instrument: The European Qualification Framework

VET is an even more heterogeneous field than HE, also in terms of the stakeholders involved. The Copenhagen process aims to bring the interests of these stakeholders together at the European level (CEDEFOP, 2010: 23). The Copenhagen process can in part be understood as a coordinated response in order to raise the status of VET in relation to HE. The Bologna process provided the inspiration and template for the Copenhagen process (BIBB, 2002: 8; Fahle and Thiele, 2003). That is, "Copenhagen extended the spirit of Bologna to the VET area" (Balzer and Rusconi, 2007: 61).

Within the Copenhagen process, the qualification frameworks represent the key instruments (CEDEFOP, 2010: 27) or its centerpiece (*Herzstück*, as Schwarz, 2011: 9, puts it). The EQF was initiated in 2004 within the Copenhagen process (e.g., European Commission, 2008) and formally adopted by the European Parliament and the Council of the European Union in 2008 (CEDEFOP, 2012: 9). While European education and training policy demands greater mobility between VET and HE, the EQF can be considered to be an ideal test case for the endurance of the existing institutional divide between these two fields in Austria, Germany, and Switzerland. The EQF "is built on a culture of lifelong learning and is not necessarily bound by time or gender, by age group or by kind of institution" (Calleja, 2007: 160). It constitutes a matrix of eight levels from basic (level 1) to advanced (level 8) and three descriptors, namely "knowledge," "skills," and "competences" that encompass both VET and HE (see Appendix 11.3 for a copy of the EQF matrix and key definitions). The EQF serves as a voluntary and outcome-oriented translation device for enhancing the readability of all national qualifications (formal, informal, and non-formal), the international mobility of students and workers, and lifelong learning. Thus, under the banner of lifelong learning as an ideal, the diffused norms, standards, and regulations include increased international transparency, learning outcome orientation, and enhanced permeability regarding all types of education. The EQF is to be complemented by the European Credit System for Vocational Education and Training (ECVET) (see Dunkel and Le Mouillour, 2007), which was still in the test phase at the time of writing.

One of the basic goals of the EQF is to subsume the two distinct segments of VET and HE under one qualification frame, whereby, in consideration of European norms and standards, the respective relationships are reviewed and discussed nationally by all relevant stakeholders. That is, on the basis of a non-binding recommendation, member states are asked to each develop a national qualification framework (NQF). The NQFs can divert from the EQF to adjust for specific national conditions. Once completed, the NQF is to be referenced to the EQF (European Parliament and Council,

2008). In this process of referencing, the EQF serves as a "metaframe," given that "national authorities responsible for qualification systems, in cooperation with stakeholders responsible for developing and using qualifications, define the correspondence between the national qualifications system and the eight levels of the EQF" (EU, 2011: 6). The countries that have agreed to develop an NQF include all 27 members of the EU as well as Croatia, Iceland, Norway, and Turkey (Pevec-Grm and Bjørnåvold, 2010: 6). In November 2011, France, Ireland, Malta, and the UK referenced their fully implemented NQFs to the EQF. This process is still under way in the other countries that have signed up to the EQF (Pevec-Grm and Bjørnåvold, 2011: 4; with the exception of Lichtenstein, see Pevec-Grm and Bjørnåvold, 2010: 6).

Unlike the directives on the recognition of professional qualifications described in the above, the EQF is not legally binding (e.g., Freitag, 2009: 17) and, hence, is not intended to serve as a legal device for such recognition but rather as a tool that helps to translate and compare qualifications between the various HE and VET systems in Europe (e.g., BIBB, 2007: 9). This is especially relevant given that one of the main problems with the implementation of the directives was (and still is) their static configuration and the lack of information on the qualifications earned in different national settings, language regions, as well as occupational and labor market structures (see Paulsen, 2007: 27).

5.3 Summary

Bologna and Copenhagen aim to facilitate lifelong learning and to increase permeability between VET and HE (see, e.g., Council of the European Union, 2004). However, Germany, Austria, and Switzerland represent hard cases for such European educational policies due to the division between VET and HE that is taken for granted in these countries. This raises the open question of whether current European policies will bring about substantive change in the DACH countries. The final section in each country-specific chapter is reserved for an exploration of the impact of current Europeanization processes and the question of whether institutional elements that are characteristic of these three countries are being replaced, converted, or changed in some other way. In addition, Chapter 9 then reassesses how substantive this "Europeanization challenge" really is for Austria, Germany, and Switzerland. Furthermore, the country-specific chapters point out when Europeanization processes prior to Bologna and Copenhagen already influenced the national trajectories of hybridization in the DACH countries.

The first country chapter presents the German case, followed by the chapters on Austria and Switzerland.

6. GERMANY: Dual Studies and the Transformation of the Dual Principle

The schism between vocational education and training (VET) and higher education (HE) has deep historical roots that are linked, for instance, to the national model of capitalism and the segmentalist strategies of middle-class intellectuals (*Bildungsbürgertum*) (see Baethge, 2006a). This chapter begins with an introduction to the German education system, which serves to illustrate the two separate organizational fields of VET and HE. This general description is followed by an exploration of the dual study programs as an organizational form that does not fit easily into one of these two fields but seems to straddle the boundary between them. I will then go on to trace the genesis (Phase I) and the further evolution (Phase II) of this hybrid organizational form. The next section explores the impact of European educational policies on this process of hybridization. The chapter concludes with a table that provides an overview of the key developments discussed here.

6.1 Introduction to Skill Formation in Germany

The German Education System at Upper-Secondary Level[65]

Table 9 shows the number of students enrolled in different types of school at upper-secondary level (ISCED 3). This is merely a rough indicator of the size of the respective sectors due to the variety and complexity of organizational forms at upper-secondary level in Germany, for example in the category of full-time vocational schools (see Autorengruppe Bildungsberichterstattung, 2010: 96 on the participation rates within this category; Steinmann, 2000: 61). The two general summaries that can be drawn from Table 9 are that a large proportion of young people in Germany are enrolled in VET and that dual apprenticeship training (indicated by the number of people enrolled in part-time vocational schools) is a significant factor at the upper-secondary level.[66] Dual apprenticeship training combines training in a firm with classroom teaching in part-time vocational schools and leads to a recognized certificate according to the Vocational Training Act (*Berufsbildungsgesetz,*

65 See, e.g., KMK (2012a) for a chart showing the basic structure of the German education system.

66 For critical reviews of current developments in the German VET system, see Solga (2009), Baethge, Solga, and Wieck (2007), Thelen (2007), Kupfer (2010), and Zimmer and Dehnborstel (2009).

BBiG) or the Crafts Code (*Handwerksordnung*) (see, e.g., Baethge, 2008a: 543). Within the sector of full-time school-based VET, there are the following three categories of school programs: (A) One-year programs that are intended to prepare students for dual apprenticeship training (*Berufsvorbereitungsjahr* and *Berufsgrundbildungsjahr*).[67] (B) Schools that mainly provide a general education and lead to certificates that grant either general or limited access (in terms of subject areas) to one or more organizational forms in the HE sector (*berufliche Schulen mit vorrangig allgemeinbildendem Charakter*). Examples are the vocationally-oriented secondary school (*Fachoberschule*) and the specialized academic upper-secondary school (*berufliches Gymnasium*). (C) Schools leading to certificates that fully qualify individuals to enter a specific occupation, for instance the full-time vocational schools (*Berufsfachschulen*) and the schools in the health-care sector (*Schulen des Gesundheitswesens*) (see, e.g., Steinmann, 2000: 64–70; Baethge, Solga, and Wieck, 2007). The latter form (C) does not stand in direct competition with dual apprenticeship training as it mostly focuses on different types of occupations (e.g., Steinmann, 2000: 71). In comparison to VET, the structure of general academic education at upper-secondary level is less complex as it is mainly offered by the academic secondary schools (*Gymnasium*) and leads to a general higher education entrance certificate (*Abitur*) (see KMK, 2012b).

Table 9: Students at upper-secondary level (ISCED 3), Germany, 2010

	Absolute	**%**
Total	3,780,320	100
General schools (*allgemeinbildend*)	1,092,300	29
Vocational schools (*beruflich*)	2,688,020	71
Of which:		
Full-time vocational schools	*934,050*	
Part-time vocational schools	*1,753,970*	

Source: KMK (2011b: X); translation and calculation of % values by LG

The German Education System at Post-Secondary Level

In the higher VET sector, trade and technical schools and *Meister* (Master craftsman) schools offer further vocational training targeted at the holders of initial VET (IVET) qualifications who are seeking to become technicians or *Meister* (either on full-time or part-time courses) (see CEDEFOP, 2011: 69–70). The German HE system is dominated by universities and universities of applied sciences (see Table 10) and, hence, this short section focuses on these two organizational types. The universities provide academic education at post-secondary level, the traditional *Leitidee* (rationale) of the German uni-

67 See, e.g., Baethge, Solga, and Wieck (2007) and Powell, Graf, Coutrot et al. (2009) for a critical review of this so-called "transition-system."

versities being the combination of teaching and research (see, e.g., Mayer, 2008; Powell, Bernhard, and Graf, 2012b). Compared to universities of applied sciences, teaching at universities is typically more theory-oriented and research more oriented to basic/fundamental research (*Grundlagenforschung*). Universities of applied sciences were introduced in the late 1960s/early 1970s as a new organizational form at HE level that focuses on more practical studies in fields such as economics, engineering, social work, and health (see Section 6.3.1 for more details).

Table 10: HE institutes and student enrolment in Germany, 2011/12

Types of HE institute	No. of institutes	Students absolute	Students %
Universities	104	1,542,226	64.9
Universities of applied sciences	203	744,150	31.3
Academies of art	51	33,340	1.4
Public administration colleges	29	31,654	1.3
Teacher training colleges	6	23,221	1.0
Theological colleges	16	2,443	0.1
Total	*409*	*2,377,034*	*100*

Source: Data retrieved from DESTATIS (2012c, b); sorted by number of students enrolled; translation and calculation of % values by LG

Governance and Key Stakeholders in the German Education System

The modes of governance for VET and academic/HE sectors differ: The academic secondary schools (*Gymnasien*) and the HE institutes are regulated by the 16 *Länder* (federal states) (KMK, 2011a). Initial vocational training in enterprises is regulated by a number of federal laws, while the legal basis for in-school vocational training is provided by *Länder* legislation (CEDEFOP, 2011: 38). Close cooperation between employers, trade unions, and the state is one of the central tenets of the German VET system (e.g., Baethge, 2008a). At the federal level, the ministry responsible for education and research is the Federal Ministry of Education and Research (BMBF) (BMBF, 2011). The Federal Institute for Vocational Education and Training (BIBB), which is subordinate to the BMBF, plays an important role in developing profiles for VET programs in cooperation with the social partners (BIBB, 2012a).

The trade unions are engaged in the collective bargaining process and in several functions in the governance of the dual apprenticeship training system

(see, e.g., Baron, 2007: 16–22 for details).[68] On the employers' side, there are three types of interest organizations. One of the major tasks of the employers' associations (*Arbeitgeberverbände*) is representing employers' interests during the process of collective bargaining.[69] The trade associations (*Wirtschaftsverbände*) are specialized in lobbying for business interests within the political system.[70] The chambers of industry and commerce (*Industrie- und Handelskammern,* IHK) are responsible for a number of tasks of economic self-governance, such as the testing system for apprentices.[71] While membership of the employers' associations and the trade associations is voluntary, membership of the chambers is compulsory (except for handicraft and agricultural enterprises) (Andersen and Woyke, 2003).

The five major parties in the German political system are the conservative Christian Democratic Union (*Christlich Demokratische Union Deutschlands,* CDU)[72], the center-left Social Democratic Party (*Sozialdemokratische Partei Deutschlands,* SPD), the pro-business Free Democratic Party (*Freie Demokratische Partei,* FDP), the Left Party (*Die Linke*), and the Alliance '90/The Greens (*Bündnis 90/Die Grünen*) (see, e.g., Spiegel Online, 2009; Niedermayer, 2006).[73] Broadly speaking, while the FDP and the CDU tend to be more oriented towards business interests, the SPD and the Left Party have closer links to the trade unions (Seibring, 2010). The historical process analysis in this chapter refers to the above-mentioned actors.

There is one relatively new but rapidly growing educational organization in the German skill formation system that combines central institutional elements from both VET and HE, namely the dual study programs, which are introduced in the following section.

68 Most, but not all, trade unions are organized within the Confederation of German Trade Unions (*Deutscher Gewerkschaftsbund,* DGB) (Seibring, 2010). For general descriptions of the system of trade unions in Germany, see, e.g., Esser (2003) or Schroeder (2003).

69 The umbrella organization of the employers' associations is the Confederation of German Employers' Associations (*Bundersvereinigung der Deutschen Arbeitgeberverbände,* BDA).

70 The umbrella organization of the trade associations is the Federation of German Industry (*Bundesverband der Deutschen Industrie,* BDI).

71 The umbrella organization of the regional chambers of commerce is the Association of German Chambers of Industry and Commerce (*Deutscher Industrie- und Handelskammertag,* DIHK).

72 The CDU's sister party in Bavaria is the Christian Social Union of Bavaria (*Christlich-Soziale Union in Bayern,* CSU).

73 The parties are listed according to the results of the parliamentary elections in 2009 (see Wahlrecht.de, 2009), i.e. the party that received the most votes is listed first.

6.2 Description of Dual Study Programs

In Germany, the organizational form that meets the three criteria for hybridity (described in Section 3.3.4) are the dual study programs.[74] It can be argued that these programs represent a specifically "German model" (Interview DE1, DE5).[75] Broadly speaking, dual study programs combine in-company work experience with tertiary studies at vocational academies (*Berufsakademien*), cooperative universities (*Duale Hochschulen*), universities of applied science, or universities.[76] In other words, there are always at least two learning environments, and in about a third of the dual study programs the vocational school is integrated as a third location (Waldhausen and Werner, 2005: 50). Furthermore, in dual study programs, students and firms are bound by a training, part-time, practical training (*voluntariats*-), or internship contract (e.g., BIBB, 2010; Kupfer and Stertz, 2010). Dual studies are usually offered at Bachelor degree level. Dual studies integrating a Master degree are still very rare. In 2009, only approximately 2–3% of all dual study programs were offered at Master degree level (Busse, 2009: 31).

The field of dual study programs has emerged over approximately the last 40 years and is characterized by considerable heterogeneity of organizational forms (Waldhausen and Werner, 2005: 27). In the 1990s, the Higher Education Information System (HIS) in Hanover established a first rough taxonomy (Holtkamp, 1996), which was further refined by the BIBB (Mucke and Schwiedrzik, 2000; Kupfer and Mucke, 2010). The four next paragraphs closely follow and slightly adapt the description by Kupfer and Mucke (2010: 5–6, translations by LG).

Dual study programs integrating an initial VET certificate (*ausbildungsintegrierende duale Studiengänge*): These programs usually last three or four years and are typically designed for people without VET training or vocational experience who hold a university or university of applied sciences

74 It can be argued that HE in Germany is generally closer to vocational education than, e.g., in France (I thank Arndt Sorge for pointing this out to me). German universities are thus also influenced by the vocational principle. However, even if, e.g., German technical universities provide certain linkages to the VET sector, they still do not fulfill the criteria for hybridity outlined in Chapter 3, e.g. due to the lack of systematic integration of VET elements as well as their more academic mode of governance.

75 Appendix 11.1 contains a detailed list of the expert interviews carried out in Germany.

76 For the sake of simplicity, these four different types of host organizations are sometimes referred to together as higher education institutes (or HE institutes) in the following. While vocational academies belong to the post-secondary educational level, they are not officially regarded as higher education institutes (*Hochschulen*) (Bundesagentur für Arbeit, 2013). However, if a Bachelor degree awarded by a vocational academy is formally accredited, then this degree is regarded as equivalent to a Bachelor degree from a higher education institute (KMK, 2004).

entrance certificate.[77] Normally, students first have to sign a training contract with a firm. Students acquire an official upper-secondary level VET certificate registered by the Chamber of Commerce (IHK)/Chamber of Crafts (HWK) or a certificate granted by full-time vocational schools (*fachschulische Ausbildung*). Training in vocational schools can be, but need not be, part of *ausbildungsintegrierende* programs (Interview DE9).[78] The school-based training required for these VET certificates is accomplished in a "fast-track" (i.e. faster than is the case in regular dual apprenticeships). Theoretical and work-based learning are integrated in different ways: in-firm phases may, for example, take place a few days every week or *en-bloc* at 8 to 16-week intervals. At the end of the program, students gain a Bachelor degree. Thus, *ausbildungsintegrierende* dual study programs combine two qualifications that are formally not located at the same educational level (see also Rauner, 2007: 2).[79]

Dual study programs integrating work practice (*praxisintegrierende duale Studiengänge*): Again, these programs are designed for people without VET training or vocational experience who hold a university or university of applied sciences entrance certificate. In *praxisintegrierende* programs the students do not necessarily acquire an official VET certificate (but a Bachelor degree) (Becker, 2006: 9). Students need a contract with a firm and studies usually last three years (Minks, Netz, and Völk, 2011: 36). Work experience phases of different lengths are integrated and extend far beyond the sometimes obligatory internships required in "traditional" HE programs. Also, in comparison to standard programs at universities of applied sciences, in *praxisintegrierende* dual study programs more attention is paid to adjusting curricula to the in-firm phases in the respective courses of study (Interview DE2).

Dual study programs integrating an occupation (*berufsintegrierende duale Studiengänge*): These programs are best suited for people who have completed initial VET training and have acquired a university or university

77 However, people who hold an official IVET certificate and have gained additional work experience are eligible for access to HE programs in related fields of study, too (according to a decision by the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany: *Hochschulzugang für beruflich qualifizierte Bewerber ohne schulische Hochschulzugangsberechtigung*, 6 March 2009, see Section 3.3.4).

78 Depending on the local organizational arrangement, the training towards the VET certificate, which traditionally takes place at vocational schools, can also be carried out by the vocational academy, university of applied science, or university.

79 There are also a very small number of programs in Germany that combine a *Meister* certificate with a Bachelor degree (see also Rauner, 2007). In the case of the *Trialer Studiengang Handwerksmanagement* in Cologne it is even possible to combine an IVET, a *Meister*, and a Bachelor qualification (Handwerkskammer zu Köln, 2012). However, these models are the exception to the common dual study combination of an IVET qualification plus a Bachelor degree.

of applied sciences entrance certificate. An existing part-time work contract is a precondition for this type of dual studies (to put it more positively, prospective students need not give up their job). The programs usually last three to four years and the curriculum should refer to the respective in-firm experience. In some select programs, a *Meister* qualification is integrated or at least elements that count towards this qualification. Furthermore, there are dual study programs for which a *Meister* qualification is an entry requirement that then counts towards the Bachelor degree (thus reducing the overall study load).

Dual study programs accompanying an occupation (berufsbegleitende duale Studiengänge): These programs serve students with and without a university or university of applied sciences entrance qualification. They resemble distance-learning programs, as students are usually employed full time and study on their own in their free time or can visit accompanying seminars. However, in contrast to distance-learning programs, the firm is supposed to assist students in successfully completing the program, for example by exempting them from work (e.g., during classes at the higher education institute) or in enabling them to gain specific work experience. In contrast to the three above-mentioned types of programs, these programs leave it up to the student to integrate the two settings, which limits a structured integration of VET and HE (see Waldhausen and Werner, 2005: 52; Becker, 2006: 9).

The majority of dual study programs are offered by universities of applied sciences (59%), the *Duale Hochschule Baden-Württemberg* (Baden-Württemberg Cooperative State University) (20%), vocational academies (16%), and universities (3%), followed by other HE institutes (2%). Offers of dual study programs at universities of applied sciences are growing fastest (BIBB, 2011a: 23). Vocational academies currently offer mostly *praxisintegrierende* programs, while universities of applied sciences focus on *ausbildungsintegrierende* programs. The traditional universities offer *ausbildungsintegrierende* programs only (Minks, Netz, and Völk, 2011: 34).[80] Vocational academies have been established providers for quite a long time (Waldhausen and Werner, 2005: 29–30) and tend to distinguish themselves from dual study programs offered by universities of applied sciences and traditional universities through an even greater orientation to practice and sometimes through shorter study programs (Waldhausen and Werner, 2005: 36). In total, around 26,000 cooperative relationships have been established between firms and different organizational forms within the dual studies framework (Kupfer and Stertz, 2010: 37).

In April 2011, 61,195 students were registered in the database AusbildungPlus.de (BIBB, 2011a: 23). However, the real number of students in dual

80 In the following the shorter German terms are mostly used to refer to these four different types of dual study programs.

study programs will be far higher as the providers of dual study programs report student numbers on a voluntary basis (BIBB, 2011a: 23). Yet, it should be noted that – due to their firm-driven supply – dual study programs are only offered in specific subjects and most commonly in engineering sciences, law, economics, business sciences, and math and natural sciences (Table 11 provides an overview of the number of programs offered in different subjects and on the distribution of the four types of dual study programs). In these subjects the proportion of students enrolled in dual study programs relative to traditional HE programs is significant. Dual studies are a segment that is rapidly growing and attracting increasing attention from all major stakeholders (Interviews DE1–8). After the founding decades in the 1970s and 1980s, a second wave of launches can be observed from the late 1990s onwards. This time, however, the expansion in particular took place at universities of applied sciences (Waldhausen and Werner, 2005: 33). The number of students enrolled in dual study programs increased by approximately 70% between 2005 and 2011 (Becker, 2012). The number of students in dual study programs registered in the database AusbildungPlus.de rose by 6.1% within one year between 2009 and 2010 (BIBB, 2010: 24). The greatest growth can be observed in the *STEM* subjects (BIBB, 2011c).[81]

Table 11: Number of dual study programs by type, Germany, 2010

Subject	**Type of dual study program**				
	Ausbild-ungs-integrierend	*Praxis-integrierend*	*Berufs-intgerierend*	*Berufs-begleitend*	*Total*
Engineering sciences	180	82	6	10	*278 (52.1%)*
Math and natural sciences	36	35	2	3	*76 (14.2%)*
Agricultural and forestry sciences	3	1	-	-	*4 (0.7%)*
Medicine, healthcare	11	1	5	1	*18 (3.4%)*
Law, economics, and business sciences	60	62	7	13	*142 (26.6%)*
Social sciences	2	4	6	4	*16 (3%)*
Total	*292 (54.7%)*	*185 (34.6%)*	*26 (4.9%)*	*31 (5.8%)*	*534 (100%)*

Source: Kupfer and Mucke (2010: 6); translation and calculation of % values by LG

There are few scientific studies of dual study programs (see also Minks, Netz, and Völk, 2011: 111), which means that systemized data and analyses of the

81 STEM is an abbreviation for "science, technology, engineering, and math."

vocational academies and also dual study programs more generally are hard to find. The Confederation of German Employers' Associations (*Bundersvereinigung der Deutschen Arbeitgeberverbände*, BDA) refers to more than 900 dual study programs (BDA, 2011: 7). The BIBB lists 434 *ausbildungsintegrierende* and 373 *praxisintegrierende* dual study programs (BIBB, 2011a: 22). The BIBB is now picking up on the lack of systematized data as it is launching research projects on dual studies and trying to further develop its AusbildungPlus.de database (Interviews DE3, DE5, DE6).[82] In the next step, I will outline the main hybrid characteristics of dual study programs.

Hybrid Learning Process, Typical Pathway, and Certification

Dual studies straddle the boundary between HE and the world of work (Minks, Netz, and Völk, 2011: 1). The crucial point is that work experience and study phases are integrated to a significant extent, for example in terms of coordinated curricula. This point is decisive, as it distinguishes dual study programs provided by universities of applied sciences from regular programs offered at universities of applied sciences (Mucke and Schwiedrzik, 2000: 7). Dual study programs connect two didactic principles, namely practical training and scientific orientation (Deißinger, 2000: 614 on vocational academies; Becker, 2006: 1 on dual studies in general). For example, the curricula at the Department of Cooperative Studies (*Fachbereich duales Studium*) at the Berlin School of Economics and Law are designed in cooperation with firms (Interview DE2). More generally, in dual study programs the involvement of firms in the set-up of dual study programs results in a hybrid learning process. Ideally, a subject-specific expert commission composed of representatives from the academy, the state, and the firm ensure that theory and practice are integrated (see Deißinger, 2000: 615 on vocational academies). Furthermore, the teaching staff is composed of trainers from industry, vocational school teachers, and lecturers from universities and universities of applied sciences. In summary, I argue that dual study programs fulfill Hybridity Criterion I (see Section 3.3.4).

The *ausbildungsintegrierende* dual study programs are the clearest instances of programs that span the boundary between upper-secondary VET and HE (Hybridity Criterion II), as their students receive an initial VET certificate as well as a Bachelor degree. Furthermore, the *ausbildungsintegrierende* dual study programs served as the template for the other types of dual study programs, as the initial idea of dual studies was to combine these two kinds of certificates. In other words, the first type of dual study programs were of the *ausbildungsintegrierendend* type (Kramer, 1981: 20;

82 Interestingly, with regard to dual study programs, the BIBB focuses its research efforts on universities of applied sciences rather than on vocational academies (Interview DE5). This point will be discussed in the process analysis.

for details see Phase I below). But dual study programs also link the upper- and post-secondary levels in other relevant ways. For instance, the *berufsintegrierende* dual study programs offer an attractive option for apprentices who attained a higher education entrance certificate prior to IVET training and want to study while staying in their current job.

Hybrid Governance

Dual study programs tend to be established from the bottom up through regional initiatives by firms and, for example, a local university of applied sciences. In this sense, a mutual interest prevails, which facilitates the time-efficient coordination of the curricula and, generally speaking, enables relatively unproblematic relations (see Mucke and Schwiedrzik, 2000: 11–12). With regard to the cooperation between state and industry, "[t]his may be rated as a clear transposition of the 'principle of consensus' from the Dual System into the VA system" (Deißinger, 2000: 615, VA stands for vocational academy; see also Becker, 2006: 13). Thus, the phenomenon of dual study programs can be seen to support the argument that the dual principle has "extended" and, in this sense, moved up to the HE sector (see Sorge, 2007: 240; see also Drexel, 1993). However, later in this chapter I argue that this position to some extent does not take into account the crucial role employee organizations and trade unions traditionally play within the dual system of apprenticeship training.

The profile of a dual study program is largely determined by internal negotiations and a cooperation agreement (*Kooperationsvereinbarung*) between the training firm and the organizational provider (Mucke and Schwiedrzik, 2000: 15; Becker, 2006: 4, 36). This implies that there is some flexibility in the specific forms of coordination between firms and educational institutes (e.g., loose or tight) (Harney, Hartz, and Weischet, 2001: 25; Reischl, 2008: 53). In the relationship between the firm and the educational institute, formally the latter is the one that has the final say and can set the standards for the participating firms (Interview DE8; Akkreditierungsrat, 2010). The firms nevertheless have significant influence when it comes to setting up dual study programs as they can choose between different educational providers (Becker, 2006: 36). Then again, the vocational academies, universities of applied sciences, and universities that offer dual study programs are subject to the respective laws and accreditation processes in the *Länder* (see, e.g., Akkreditierungsrat, 2010).[83]

At the national level, the BIBB is active in building up a database on dual study programs (see also above), which hints at the boundary-spanning role of these programs at the nexus of VET and HE (given that the BIBB is tradi-

83 The particular status of an educational organization (e.g., public or private) will also determine which specific *Länder* regulation applies.

tionally an actor in the VET system). Moreover, the employer associations often support dual study programs through policy statements or through their actual involvement in a specific dual study program (e.g., BDA, 2011). However, only in the case of the *ausbildungsintegrierende* programs, in which an official VET certificate is awarded, is the involvement of the chambers formally required. Moreover, there is no federal standard with regard to the salaries of people enrolled in dual study programs (see discussion further below). Only in the case of the *ausbildungsintegrierende* dual study programs is it decreed that the student should receive at least the same payment as an apprentice. However, the actual payment for students in dual study programs is sometimes higher, depending on specific local regulations or sometimes even individual negotiations between the student and the firm (e.g., Interview DE2).

The Hybrid Characteristics of Dual Study Programs

Table 35 in Appendix 11.5.2 provides an ideal-typical description of the location of the hybrid dual study programs in the German skill formation system. According to the criteria outlined in Section 3.3.4, the *ausbildungsintegrierende*, *praxisintegrierende*, and *berufsintegrierende* types of dual study programs qualify as hybrid organizational forms. They combine learning processes from both VET and HE and they usually stress the equal importance of academic and firm-based learning (Hybridity Criterion I). The best example of the way in which these dual study programs can link upper- and post-secondary education is the double qualification awarded at the end of the *ausbildungsintegrierende* programs (Hybridity Criterion II). Finally, these programs are neither solely subject to traditional HE governance nor to traditional VET governance, but to a mix of both (Hybridity Criterion III). It should be noted that the *berufsbegleitende* programs do not qualify as hybrids due to a lack of curricular coordination between the firm and the educational organization. Thus, in the following, when I refer to dual study programs without further specification I refer to the three types of dual study programs that match the criteria for hybridity (i.e., *ausbildungsintegrierend*, *praxisintegrierend*, and *berufsintegrierend*). However, of these three types, I focus mostly on *ausbildungsintegrierende* and *praxisintegrierende* dual study programs, which specifically target high-school leavers and, with that, job starters (see Minks, Netz, and Völk, 2011: IV). That is, these two types are foundational (*grundständige*) programs (Mucke, 2010a), while *berufsintegrierende* programs are more part of the broad field of further education.

It is interesting to note that neither *ausbildungsintegrierende* nor *praxisintegrierende* dual study programs exist in Switzerland (Interview CH9). In 2010 Avenir Suisse – a market-liberal think tank founded in 2000 by internationally active large Swiss firms – proposed the creation of dual study programs in one of its policy reports (Schellenbauer, Walser, Lepordi et al.,

2010). However, this has been without results so far. In Austria, there is one *ausbildungsintegrierender* dual study program in nursing, which was founded in 2011 and is offered by a private provider. Furthermore, a small number of *praxisintegrierende* dual study programs can be found in Austria. While the German dual study options have recently attracted attention from the Austrian Federal Economic Chamber (WKO, 2010: 35), they are nevertheless very rare in Austria.[84]

In the following, I will explore the specific processes that led to the development of the dual study programs in the German case and how these hybrid programs were able to evolve in an institutional setting that traditionally draws a sharp line between VET and HE.

6.3 Process Analysis of Hybridization

6.3.1 Phase I (Genesis): The Invention of the Dual Study Programs in a Period of Historical Contingency (Early 1970s)

In 1972 the *Württembergische Verwaltungs- und Wirtschafts-Akademie* (VWA) and the IHK Stuttgart cooperated closely on the initiative of large firms – such as Robert Bosch GmbH, Daimler Benz AG, and Standard Elektrik Lorenz AG (Kramer, 1981: 19) – to create the first vocational academies and, with that, the prototype of dual study programs (Beschoner, 2009: 13). The so-called "Stuttgarter Modell" was an *ausbildungsintegrierendes* dual study program (Kramer, 1981: 20) and helped firms to attract persons with an *Abitur* (i.e., with general academic skills) to embark on vocationally specific training. The vocational academies introduced a new structural element to tertiary education (Deißinger, 2000: 611), signifying a trend towards educational modes that combine practical and intellectual skills (see, e.g., Sorge, 2007: 240).

The founding of the first vocational academies is closely linked to the establishment of the universities of applied sciences (1969–1972). The universities of applied sciences were created through an "upgrading" of technical and engineering schools (Metzner, 1997) in order to account for increased demand in tertiary education and also to improve the international reputation of the training provided by these organizations (BMBF, 2004: 6). In fact, both of these arguments had gained in popularity in the late 1960s as they have been voiced by students of these former technical and engineering

84 In addition, it can be noted that the German dual study programs tend to differ significantly from the more loosely organized on-the-job apprenticeships that are sometimes offered as part of university programs in liberal market economies (see also Chapter 2).

schools themselves (Kahlert, 2006). Ironically, the vocational academies can in large part be seen as an unintended consequence of this upgrading of the former engineering schools: Influential large firms in Baden-Württemberg launched them precisely in order to secure their hold on high-end VET, which they feared they would lose in the face of the greater autonomy of the new universities of applied sciences (Kahlert, 2006). In other words, the vocational academies were in part founded because industry feared the increasing academization linked to the upgrading of the former technical and engineering schools into universities of applied sciences (Schwiedrzik, 2001: 164). In addition, in the aftermath of the mass student protests of 1968, these firms were skeptical of the capacity of these new universities of applied sciences to produce "loyal employees" (Hillmert and Kröhnert, 2003: 199).

I characterize the genesis of the first dual study programs as a bottom-up process that was, in the first place, driven by the interests of large firms. The large firms did not have sufficient influence within the organizational field of HE – which in Germany is traditionally dominated by "political legalism" (Goldschmidt, 1991), the "academic oligarchy" (Clark, 1983), and the *Bildungsbürgertum* (middle-class intellectuals) – to directly intervene in the process of upgrading of the engineering and technical schools into universities of applied sciences. Thus, as an alternative strategy, they opted to establish a new organizational form that specifically caters for their needs. In this sense, the firms resemble the type of change agents that Mahoney and Thelen (2010b: 25–26) describe as *subversives*. However, they neither sought to entirely displace the newly established universities of applied sciences nor the dual apprenticeship programs, but aimed to establish a new organizational form at the fringes of these two established ones. At the system level, this process of genesis can be seen as historically contingent. For instance, as Kahlert (2006) notes, the vocational academies were not mentioned in any general education policy plan; their genesis rather happened as a by-product of the politically planned creation of the universities of applied sciences. As one of the interviewees said, in the beginning the vocational academies were not taken seriously by most of the established actors in the fields of VET and HE; they were rather seen as a thought experiment (Interview DE3).

With reference to the theoretical framework developed in Chapter 3, the emergence of the vocational academies can be interpreted as resulting from the conversion and blending of institutional elements taken from dual apprenticeship training with characteristic HE elements. For example, dual study programs were at the forefront of a development through which the practice-oriented competences approach (*handlungskompetenzorientierter Ansatz*) is brought to bear on HE (Interview DE3). This is seen by some interviewees as an upward orientation – or as a diffusion of the VET principle to HE (Interview DE2) – but without losing sight of the specific strength of the dual principle (Interview DE5). In this way, a new hybrid organizational form was

created that represents a layer located in a grey area between VET and HE (see Hybridization Hypothesis and Genesis Scenario II).[85] This genesis of the dual study programs represents an "unintended" bottom-up process triggered by the subversive activities of large industrial firms in Baden-Württemberg. The largely efficiency-driven interest of firms in practically oriented dual study programs coincided with the interests of a specific target group of students (see also Section 6.3.2 below). Thus, the genesis of vocational academies carries a strong moment of contingency.

Before the analysis delves into the further evolution of dual study programs (Phase II), the next section offers an account of the relationship between VET and HE in the German Democratic Republic. This short detour serves to further specify some of the essential conditions behind the genesis of dual study programs in the Federal Republic of Germany.

A Short Detour: The Different Relationship between VET and HE in the German Democratic Republic (1949–1990)

This book focuses on relevant historical developments in the Federal Republic of Germany (*Bundesrepublik Deutschland*, FRG). However, Germany was divided into two countries for some of the time-span covered here. In this section I offer a short overview of the distinct characteristics of the relationship between VET and HE in the German Democratic Republic (*Deutsche Demokratische Republik*, GDR) (1949–1990), as it helps to contextualize the particularity of the genesis of the dual study programs in the FRG. To begin with, I provide some information on the general institutional set-up of the education system in the GDR in relation to that in the FRG.

After World War II educational policy in the GDR was strongly influenced by Marxist-Leninist ideology and took the Soviet Union as its role model (Baske, 1998). In contrast, in the FRG the guiding idea was to re-establish the traditional path of German educational policy prior to 1933 (Below, 2002: 82). In the GDR the education system was built on the idea of the existence of an objective law of societal development, while in the FRG it was based on the norm of the individual's pursuit of his or her own ideals and interests (Lenhardt and Stock, 2000: 520). Correspondingly, in the GDR the education system and the job "market" were more tightly coupled than in the FRG case (Köhler and Stock, 2004: 97). In addition, the education system in the former was premised on centralized governance as opposed to federalist governance in the latter (see Anweiler, 1990: 12). In 1950 the GDR joined the Council for Mutual Economic Assistance (Comecon),[86] which institution-

85 Table 34 (see Appendix 11.5.1) provides a tabular overview of the main hypotheses and scenarios.

86 The Comecon was established in 1949 by the Soviet Union, Poland, Romania, Bulgaria, Hungary, and Czechoslovakia (more countries joined later on). The goal of the Comecon was to create a systematic division of labor between the socialist states and also to promote

alized regular meetings between the ministers responsible for education.[87] According to Dobbins (2009: 403), the institutional fabric in the sphere of influence of the Soviet Union was based on state interventionism and egalitarian values. However, it is crucial to note that despite such egalitarian norms the GDR turned increasingly into a class-based society (see Solga, 1996).

The fact that the GDR was a satellite state of the Soviet Union had substantial consequences for its education system, especially considering the important role of polytechnically-oriented education implemented during the Sovietization process (see Köhler and Stock, 2004: 29). Beginning with the restructuring of the education system in the GDR after World War II, significant changes were introduced that directly affected the institutional relationship between VET and HE in the GDR. One example is the abolishment of the tiered school system up to the tenth grade and the creation of the so-called *zehnklassige allgemeinbildende polytechnische Oberschule*, which integrated polytechnical elements into the curricula of general academic education. Another example is the existence of a three-year program from grade 11 to 13 that combined VET with a general university entrance certificate (*Berufsausbildung mit Abitur*) (e.g., Schäfer, 1990). VET also played an important role in the dominant cultural-cognitive model of skill formation. For instance, Köhler (2004) notes that the skilled worker (*Facharbeiter*) was the guiding model in education policy in the 1970s.

Thus, the relationship between VET and HE was configured in different ways in the GDR and the FRG. At first glance, the above seems to point to greater institutional permeability between VET and academic education in the GDR compared to the situation in the FRG. However, in the GDR the level of social mobility that was actually realized was limited in several other significant ways (see Solga, 1996). For instance, members of the party elite did not refrain from using their monopoly in regulating access to – and the expansion of – educational programs to reproduce their own social class. Nevertheless, after reunification some of the organizational forms in the GDR that helped to provide institutional permeability between VET and HE, like *Berufsausbildung mit Abitur*, could have served as a source of innovation to overcome the more rigid divide between these two fields in the FRG. However, institutional transfer after reunification mostly took place from western Germany to eastern Germany. Thus, for example, the dual vocational training system was transferred from West to East (Culpepper, 1999a: 269–270; see also Wagner, 1999). At the same time, some of the organizational forms

harmonization in the context of disparate economic conditions (Encyclopædia Britannica, 2012).

87 An example of an outcome of this cooperation is the convention on the recognition of educational and academic degrees that was agreed on in Prague in 1972 to enhance cross-border labor mobility (Kuebart, 1990: 666–668).

established in the GDR, such as the double qualification of *Abitur* and skilled worker's certificate, were abolished. Trade unions and social democrats would have liked to preserve this *Berufsausbildung mit Abitur*, but this was first opposed by the chambers and, subsequently, also by the Federal Ministry of Education and Research (Busemeyer, 2009d: 131; Berger, 1995). Speaking about institutional transfer from western to eastern Germany more broadly, Streeck (2009: 212) argues that it was intended to stabilize the status quo in western Germany. Interestingly, the functioning of several of these transferred institutions had already been called into question in western Germany prior to their transfer to eastern Germany (see also Diewald, Goedicke, and Solga, 2000). However, western Germany did not see reunification as a catalyst for reform in the relationship between VET and HE.[88]

This historical excursion shows that the GDR did not offer conditions that were conducive to the genesis of the hybrid dual study programs, which in the FRG included the self-initiative of industrial firms, corporatist-style market coordination, and a state with some degree of laissez-faire attitude.[89] Moving on from a discussion of the conditions for the genesis of dual study programs, the next section describes the further evolution of these programs from the 1970s to the present.

6.3.2 Phase II (Further Evolution): The Rise of Dual Studies and the Development of a Hybrid Organizational Field (1970s to Present)

Phase II covers the institutional consolidation and expansion of the dual study programs. This phase focuses on several key aspects: (1) the diffusion of the dual study principle from Baden-Württemberg to other *Länder*; (2) the motives of the actors involved in dual study programs; (3) the attempt of universities of applied sciences to once again strengthen their practice-orientation through dual study programs; (4) the impact of dual study programs on traditional dual apprenticeship training; and (5) the role of dual studies in enhancing institutional permeability between VET and HE.

88 Further research could detail whether some elements of the organizational forms that were produced in the GDR – by mixing German educational traditions with Soviet influences – could be reactivated for the sake of greater institutional permeability between VET and HE.

89 More than 20 years after reunification, structural differences can still be observed in the provision of education in eastern and western Germany (see, e.g., Below, 2002). While a detailed exploration of these differences is beyond the scope of this study, it is worth noting that dual study programs are today also present – and rapidly growing – in eastern Germany (BIBB, 2011a: 32).

Diffusion of the Dual Study Principle to other Länder

Due to the success of the first vocational academies in Baden-Württemberg, the dual study principle spread over the years (see Beschoner, 2009: 13). It is today present in all 16 *Länder*.[90] However, this diffusion is also accompanied by some degree of organizational differentiation. As was mentioned earlier, the dual study principle originates from the vocational academies: "The cradle – as I would call it – of dual training in the field of higher education is the vocational academy" (Interview DE8, translation LG). Thus, initially, vocational academies were the only institutes that provided dual study programs. However, from the 1980s dual study programs were also offered as model projects at universities of applied sciences (Harney, Hartz, and Weischet, 2001: 23). With the uptake of the dual study principle by universities of applied sciences and to some limited extent also by universities, dual study programs are now offered in organizations with and without official HE status. Schwiedrzik (2001: 163) notes that vocational academies are in some *Länder* categorized as belonging to HE and in others to higher VET, depending on the local regulations. Vocational academies do not confer academic degrees but "state qualifications" (*staatliche Abschlussbezeichnungen*). However, these "state qualifications" are seen as functionally equivalent to the dual study qualifications awarded by universities of applied sciences or universities (Interview DE8). The vocational academies also have special status in terms of their representation at the national level, as they are neither part of the German Rectors' Conference (*Hochschulrektorenkonferenz*) (Interview DE7),[91] nor does the BIBB feel responsible for them (Interview DE4).[92]

The organizational arrangement of dual study programs also differs between the *Länder* (e.g., Bode, 2011).[93] That is, in each of the *Länder* we see a somewhat different implementation of dual study programs as their diffusion is not, and legally cannot, be centrally guided by the federal government[94]:

> Let me put it like this: The development of the study programs and their structural development are both issues that are controlled by the *Länder*. To a large ex-

90 Dual study programs listed in the BIBB database AusbildungPlus in April 2011: Baden-Württemberg: 236; North Rhine-Westphalia: 198, Bavaria: 126, Saxony: 77; Hesse: 70; Lower Saxony: 65; Thuringia: 33; Berlin: 27; Rhineland-Palatinate: 23; Hamburg: 16; Schleswig-Holstein: 15; Saxony-Anhalt: 14; Saarland: 10; Bremen: 8; Mecklenburg-Western Pomerania: 8; Brandenburg: 2 (BIBB, 2011a: 32).

91 The *Duale Hochschule Baden-Württemberg* is also not a member.

92 Activities by the BIBB mostly relate to the dual study programs offered by universities of applied sciences.

93 For instance, the specific organizational form of vocational academies is not present in all 16 *Länder*.

94 This statement is even more valid for vocational academies than universities of applied sciences, as the former are not subject to the German Higher Education Framework Act (*Hochschulrahmengesetz*) (see Hillmert and Kröhnert, 2003: 200).

> tent, the federal government either opts to or has to stay out. And the BIBB, ultimately, could only react and offer advice. At the end of the day the actors are located on-site in the higher education institutes and in the firms and in the chambers. In this regard, it is not so much a top-down process as a process that is desired. (Interview DE8, translation LG)

According to one of the interviewees (Interview DE9), an example of divergence at the *Länder* level is the political preference regarding whether dual study programs should include an official IVET qualification, which is influenced by the party landscape in a particular *Land.* Apparently, some of the vocational academies and businesses initially offering *ausbildungsintegrierende* programs later found that these cost too much time and effort in terms of coordination and, therefore, they were allowed to drop the initial VET certificate. This was more likely to happen in *Länder* governed by the CDU than those ruled by the SPD, the latter being more fond of stronger business regulation (Interview DE9). In addition, this hints at the crucial role of regional economic actors in shaping the type of dual study programs offered in a specific *Land* (Interview DE8). For example, depending on the composition of firms in a specific region, providers of dual study programs may cooperate more with large or (e.g., in rural areas) more with small and medium-sized firms (see also Becker, 2006: 36).

Several *Länder* have recently launched initiatives to coordinate and promote dual study programs at the *Länder* level (e.g., Rhineland-Palatinate, Baden-Württemberg, Hesse, and Bavaria). As was mentioned earlier, dual study programs are growing rapidly. However, it should also be noted that the supply of dual study programs is determined to a greater extent by fluctuations in the business cycle than regular study programs (Mucke and Schwiedrzik, 2000: 14). In other words, the planning horizon for dual study programs tends to be short term (Becker, 2006: 26–27). Thus, there are structural limits to the expansion of dual study programs: On the one hand, they are confined to a specific field of subjects (see Section 6.2); on the other hand, their supply depends on firms being willing to offer, invest, and sustain these training places (Interview DE5). Therefore, the future expansion of dual study programs is likely to depend on factors such as the demand for skilled workers and also the extent to which companies will be able to recruit their engineers or skilled workers from the standard (i.e., non-dual) Bachelor and Master programs (Interview DE5).

Next, I describe the interests that central stakeholders have in providing dual study programs as an organizational form that straddles the boundary between VET and HE.

Actors' Motives

The few studies available on dual study programs found that the majority of firms engaged in dual study programs are large firms with more than 500

employees (Mucke and Schwiedrzik, 2000: 7; Hillmert and Kröhnert, 2003: 203). Correspondingly, the typical firm interested in dual studies is one that is exposed to internal (domestic) and external (international) processes of rapid innovation and change (Harney, Hartz, and Weischet, 2001: 65). However, German small and medium-sized firms (*Mittelständler*) also perceive the dual study principle as an efficient way to attract people who have an *Abitur* and, in this way, to fight the shortage of skilled workers (*Fachkräftemangel*) (see Beschoner, 2009: 15; Becker, 2012). Given that the demand for academically qualified workers with experience from and a strong affinity to actual work practice is rising in the economy (Waldhausen and Werner, 2005: 49), one of the firms' key motives is to recruit qualified personnel who are already more attuned to the specific skills demand of the firm compared to regular HE graduates (Mucke and Schwiedrzik, 2000: 9). In this context, dual study programs also minimize the time new employees need to familiarize themselves with the job (Hillmert and Kröhnert, 2003: 206). On the other hand, the potential for increasing knowledge transfer between HE institutes and firms is not fully exploited in the sense that firms and HE institutes do not seem to increase their research cooperation as a consequence of their cooperation in dual study program (Interviews DE9–10). That is, firms see dual study programs primarily as a way to recruit and qualify employees and not so much to build up research cooperations with HE institutes.

Furthermore, firms see their involvement in dual study programs as an opportunity to save costs. As it is currently difficult to find engineers on the German job market, their recruitment through the provision of dual study programs is considered a safer and cheaper option. In addition, dual study programs decrease the risk that those who are hired for a dual apprenticeship program at upper-secondary level will later decide to acquire a higher education certificate and, therefore, leave the firm (Interview DE10). Beyond that, the firms see it as a benefit that dual study programs are partially state sponsored (e.g., when universities of applied sciences provide the school-based training) (Schwiedrzik, 2001: 166).[95] At the same time, dual studies are still cheaper for the state than, for example, most standard programs at universities of applied sciences (Schwiedrzik, 2001; Deißinger, 2000: 621). That is perhaps why the state is increasing its support for the expansion of dual study programs (see Kupfer and Stertz, 2011: 29).

Financial considerations are also relevant with regard to students' motives, as they gain a regular income during dual study programs. This is particularly important for students whose parents are less able to afford to

95 Dual study programs at public HE institutes and public vocational academies are usually financed in the same way as standard HE programs are (i.e., firms typically do not pay fees). Private HE institutes and private vocational academies usually charge fees (currently around €300–500 per month) for dual study programs, which are paid by the firm or the student (BDA, 2011: 23).

pay for their children's education. The salary usually varies between around €400 and €1000 per month, depending on the industrial sector (Becker, 2012; see also Section 6.2). Another incentive for many students is that the overall study duration is relatively short (Hillmert and Kröhnert, 2003: 206). For example, the *ausbildungsintegrierenden* dual study programs are a fast-track option compared to those pursuing an initial VET and a HE qualification sequentially (Waldhausen and Werner, 2005: 35). In addition, the *ausbildungsintegrierende* programs offer the fallback option of a VET certificate in the event that a student drops out (Eckhardt, Jacques, and Scherer, 2009: 39). Students in dual study programs also expect enhanced career opportunities on the labor market (Kupfer and Stertz, 2010: 37) as well as relative high employment security after graduation. Around 90% of all graduates from dual study programs get a job offer from the firm that has trained them (Becker, 2012). Other incentives are that places on dual study programs are usually not subject to a deliberate limitation on student numbers based on specific grade requirements (*Numerous Clausus*), as it is the firm that hires the students in the first place. Finally, it should be noted that – due to their practice orientation – dual study programs tend to be most attractive to individuals who already know very well what they want to do in their future career (Interviews DE9–10; Trautwein, Maaz, Lüdtke et al., 2006: 409).

This section has provided a general overview of the various interests of the different stakeholders in dual study programs. Next, I describe an important step in their further evolution, namely the uptake of the dual study principle by the universities of applied sciences.

The Attempt of Universities of Applied Sciences to Re-distinguish Themselves as Practice-oriented

As was mentioned earlier, in the 1980s the first dual study programs were also offered as model projects at universities of applied sciences (Harney, Hartz, and Weischet, 2001: 23), a development that gathered pace in the 1990s (Interview DE5). Taking into account that dual studies represented an alien element within HE (Schwiedrzik, 2001: 170), this development is rather puzzling, also because the vocational academies were initially founded as a response and alternative to universities of applied sciences (see Phase I: Genesis). Here, one key explanation is that the universities of applied sciences became engaged in dual studies to render themselves more practically relevant so as to attract more students (Interview DE5), as the competition between universities and universities applied sciences for scarce resources had intensified (see Jahn, 1999: 19). Offering dual study programs has provided a good opportunity to remake the image of universities of applied sciences, as these were (and, arguably, still are) becoming gradually more similar to classic universities (partly due to the professional interests of their staff) (see Mayer, 2008: 600). In this way a seemingly contradictory devel-

opment became institutionalized, as within an organizational form that is already supposed to distinguish itself through practice-orientation (the universities of applied sciences) another organizational form was established that also focuses on practice-orientation (the dual study programs) (Schwiedrzik, 2001: 166). In this sense, the diffusion of the dual study principle into universities of applied sciences serves to partially convert these back to more practice orientation. Proponents of a further assimilation between universities of applied sciences and universities had little opportunity to veto this more practice-orientated development, which was occurring in parallel. At the same time, this conversion back to more practice-orientation is only possible due to a high level of discretion in the interpretation of what a university of applied sciences is supposed to be. Thus, universities of applied sciences now often include two organizational forms: standard university of applied sciences programs and dual study programs. The "puzzle" that both these strands of programs are supposed to lead to a practically oriented qualification hints at the existing ambiguities in terms of what is perceived as a practically oriented qualification (see Section 9.5 for a discussion).

The following section shifts the focus from the relationship between the different providers of dual study programs to the impact these programs have on IVET and especially the system of dual apprenticeship training.

Impact of Dual Study Programs on IVET

1) Complementarity & Competition between Dual Studies & IVET Programs

Opinions about the impact of dual study programs on initial VET programs at upper-secondary level (IVET) differ. Some observers claim that the influence is negative as firms tend to substitute the more demanding IVET programs with dual study programs (see Eckhardt, Jacques, and Scherer, 2009: 38). At the other end of the spectrum, observers estimate that dual study programs may in fact enhance the attractiveness of VET in general (Interview DE5). On the one hand, the firms' interest in getting involved in dual study programs appears to derive from their interest in recruiting people with academic qualifications for intermediate management positions rather than, as used to be the case, those with initial VET and further VET training such as Master craftsman, technician, or senior clerk (*Fachwirt*). Thus, firms tend to place graduates of dual study programs in those positions that used to be filled by people who completed further VET training in addition to dual apprenticeship training – thus limiting career opportunities for apprentices (Heidemann and Koch, 2013: 56). On the other hand, firms report that their involvement in dual study programs neither reduces the number of training places offered in regular VET programs nor their support for *Meister* qualifications (Mucke and Schwiedrzik, 2000: 10, 13). However, the majority of the few scientific studies that there are on this topic suggest that the impact of dual study pro-

grams on IVET is more neutral. One of the experts states that dual apprenticeship training is also very important and that dual apprenticeship training and dual study programs are complementary: "The dual apprenticeship training – that is, vocational education and training – is also very important for us and the dual study programs are more an addition. Everything complements everything else and they [the apprentices and the students, LG] then also go into different areas" (Interview DE5, translation LG). One of the representatives of the firms stresses that apprentices in the dual training system and students in dual study programs are equally important to the firm due to their different skill profile: "We do not only need generals but also soldiers" (Interview DE10, translation LG).[96] At the same time, the potential reach of dual study programs in terms of recruitment (*Rekrutierungsraum*) for dual studies is likely to grow faster than that for IVET, especially for firms that are under great pressure to innovate (Harney, Hartz, and Weischet, 2001: 83–84).

Harney, Hartz, and Weischet (2001: 81, 83) found that vocational academies do not serve to substitute IVET as they play a different role within the training policy of firms, given that vocational academies are interpreted by most firms as a way to create a hierarchy within the field of VET training. Harney, Hartz, and Weischet (2001: 81) also argue that graduates from vocational academies in fact compete with graduates from regular university of applied sciences courses rather than with graduates with IVET certificates. This is one of the reasons why vocational academies have been actively trying to achieve an equal standing with universities of applied sciences. The initial idea of vocational academies was that they would provide an alternative to HE. Nevertheless, vocational academies have gradually shifted from *ausbildungsintegrierende* to *praxisintegrierende* dual study programs in a move to become more similar to traditional HE programs. In contrast, universities of applied sciences are mostly concentrating on *ausbildungsintegrierende* dual study programs (see Minks, Netz, and Völk, 2011: 34) to re-distinguish themselves as practically oriented vis-à-vis traditional universities.

2) The Ambiguous Relationship between Dual Studies and High-end IVET Programs

In the following I point to a puzzling aspect in the relationship between dual study programs and dual apprenticeship training that relates to those who have an *Abitur* representing a major target group in both cases. Around 20% of all the apprentices enrolled in a dual apprenticeship program at upper-secondary level have an *Abitur* (BMBF, 2012a: 6). In the field of training of

96 The original German phrase was: "*Wir brauchen nicht nur Häuptlinge, sondern auch Indianer.*"

industry and commerce – which is closest to those sectors in which dual study programs are offered – the proportion of people with an *Abitur* in dual apprenticeships is even around 27% (BIBB, 2011b: 170). Table 12 shows that in a number of popular dual apprenticeship programs the proportion of apprentices with a new training contract and a higher education entrance certificate is well over 50%.[97] In this context, "popular" refers to the total number of apprentices in that apprenticeship program (see right column).

Table 12: Top five occupations in terms of apprentices with a new training contract holding a higher education entrance certificate in Germany, 2009

Occupation	Proportion of apprentices with a higher education entrance certificate (%)*	Ranking of occupation (out of 344 occupations) in terms of total number of apprentices**
Bank clerk (*Bank-/Sparkassenkaufmann/-kauffrau*)	68.4	9
Industrial clerk (*Industriekaufmann/-kauffrau*)	60.7	5
Insurance and financial services broker (*Kaufmann/Kauffrau für Versicherungen und Finanzen*)	60.7	28
Tax clerk (*Steuerfachangestellte/r*)	56.7	25
Information technology specialist (*Fachinformatiker/in*)	55.3	19

Sources: *BIBB (2011b: 168); **BIBB (2011d), the total number of regulated occupations in Germany is currently 344 (BIBB, 2012b); translation by LG

What this implies is that there is one group of people who have an *Abitur* who enter *ausbildungsintegrierende* dual study programs and acquire an IVET certificate as well as a Bachelor degree and also a significant group of people who have an *Abitur* who enter the traditional dual apprenticeship system and "merely" receive an IVET certificate. Both groups hold an entry certificate for HE level education, both groups are being trained for approximately three to four years in the firm and in the classroom, but one of the two groups only receives *one* qualification, namely an IVET certificate from upper-secondary level. However, the institutional environment seemingly offers enough leeway to allow for this discrepancy in "level allocation."[98] For example, a bank is likely to advertise two different programs to academic secondary school graduates (*Abiturientinnen* and *Abiturienten*): a few places in its dual study program (e.g., business administration and banking) and

97 The figures in Table 12 do not reveal how many of these people are enrolled in *ausbildungsintegrierende* dual study programs.

98 A more straightforward organizational arrangement would be to combine a HE qualification with a qualification from higher VET, such as a *Meister* (see, e.g., Rauner, 2007).

more training places for qualified bank clerks. Yet, only those who enter the former (i.e., the dual study program) earn a degree at HE level in addition to the IVET qualification. The firms prefer such a mix of programs as it, for example, gives them the opportunity to shift individuals between programs if it turns out that an apprentice is overqualified or a student is unable to cope with the work load (Interview DE10).

3) The Challenge of Integrating Elements of VET and HE into Dual Study Programs

This discrepancy in "level allocation" is just one example of how the maintenance and expansion of dual study programs at the HE level relies on some degree of ambiguity in institutional arrangements. For example, hybridization in the form of dual study programs is also enabled by some degree of loose coupling in the actual linking between the VET and HE elements. The organizational challenge is that these programs are supposed to provide students with specific skills that bind them to the training firm, but also with the basic and general skills of an undergraduate academic course of study (*Grundständigkeit des Studiums*). Thus, dual study programs give the impression that they successfully combine undergraduate studies with an occupational qualification. However, some of the expert interviews suggest that there is sometimes a gap between the image that dual study programs give to the outsider and actual practice ("loose coupling"). For instance, sometimes the curriculum in dual study programs is too crowded to allow for a flexible and reflective association of the different elements of in-firm and classroom-based learning (Interview DE8). In other words, in some of the dual study programs it appears that integration of on-the-job experience into the curriculum at the HE institute is not fully developed (Interview DE9). In fact, dual study programs often seem to lack integrated curricula for dual learning as well as a concept of how credits can be granted for the in-firm study phases (see Heidemann and Koch, 2013: 55). Another indicator for "loose coupling" is that, in practice, the Chamber of Commerce (IHK) exams and the lecture period at the university of applied sciences may sometimes coincide and that the HE lectures sometimes show little understanding of the organizational problems this creates (Interview DE10).

In consideration of the various aforementioned developments around dual study programs, the following section explores what the implications of these programs are for institutional permeability between VET and HE.

Dual Studies and Institutional Permeability between VET and HE

As was mentioned earlier, given the design of this study as well as the lack of quantitative data, the main focus of my analysis is not on a precise measurement of the actual individual social mobility achieved between VET and HE

but rather on institutional permeability, i.e. permeability in the (a) culture-cognitive, (b) regulative, and (c) normative institutional dimensions.

(a) Dual Study Programs Bring VET and HE Closer to Each Other (Cultural-Cognitive Dimension)

Even if dual studies did increase individual social mobility between VET and HE only to a limited extent, they could nevertheless bring VET and HE closer together (Interview DE5) in one or more of the three institutional dimensions outlined in Section 3.1. This, in turn, could have long-term consequences for individual social mobility, too. And, indeed, dual study programs offer a context in which actors in VET and HE get to know each other better in cultural-cognitive terms:

> I always say it [the development of dual study programs, LG] promotes the mutual understanding and coming together of the two fields: vocational training and higher education. And this is already worth a lot. In turn, it can help us to promote permeability between the two. (Interview DE4, translation LG)

One example is when professors and lecturers at universities get to know VET better by teaching classes in dual study programs. More generally, dual study programs lead to an increasing number of teaching staff becoming familiarized with both organizational fields (Interview DE8). In this context, it is of symbolic importance that traditional universities – which were initially hesitant about the dual study option – have also recently started setting up dual study programs (Interview DE5).

(b) *Abitur* as an Entry Requirement (Regulative Dimension)

The potential of dual study programs to increase institutional permeability also in the regulative dimension of institutions seems rather limited. In Germany, the question of social inequalities is decided mostly at the upper-secondary level (see, e.g., Allmendinger and Nikolai, 2006; Leuze and Allmendinger, 2008). At first sight, dual study programs seem to fit this general pattern: Access to dual study programs usually requires an academic secondary school degree.[99] Moreover, dual study programs are very demanding, which implies that students in these programs experience a very high workload (Jahn, 1999: 18). Beyond that, students in dual study programs usually do not have standard semester breaks but only the same amount of holiday as regular employees (which they sometimes have to use to study) (Becker, 2012). A study for Baden-Württemberg shows that the dual study programs in Baden-Württemberg attract pupils with *Abitur* grades that are on average at least as good or slightly better than those of pupils attracted by

99 This differs from VET programs at upper-secondary level, which, at least formally, are not conditional on a particular school certificate.

universities and universities of applied sciences in Baden-Württemberg (Kramer, Nagy, Trautwein et al., 2011). In this sense, the ideal connected to dual study programs is rather to provide graduates from academic secondary education with advanced vocational training:

> That's why I'm very skeptical when people say that dual study programs promote permeability – not *per se*. I have heard that in the *ausbildungsintegrierende* and *praxisintegrierende* dual study programs there are only people with very good *Abitur* grades. […] And we see it more as an enrichment for vocational training if they [those with very good *Abitur* grades, LG] do that and now also get familiar with vocational training. (Interview DE5, translation LG)

Nevertheless, dual study programs introduce a new kind of entry route into HE as it is primarily the firm that selects the participants and not the educational organization itself.[100] One common procedure is that prospective students apply to and are selected by the firm. Afterwards, they enroll at the HE institute that cooperates with the firm (on the condition that they meet the general HE entry criteria) (see, e.g., Heidemann, 2011: 7).[101] Crucially, firms do not refer to exactly the same criteria when selecting candidates as HE institutes do (Interview DE10). For example, firms may select candidates from their existing workforce. However, due to a lack of data, it is impossible to fully explore here whether firms' influence in selecting candidates for dual study programs is diminishing or enhancing individual social mobility. Nevertheless, it can be speculated that access requirements for dual studies will be lowered once the shortage of skilled workers becomes even more relevant and once the supply of programs has further increased (Interview DE9–10).

(c) Dual Studies are an Attractive Option for "Unlikely" HE Candidates (Normative Dimension)

Furthermore, dual studies offer an attractive pathway to those who have a higher education entrance qualification but a family background that does not facilitate access to traditional HE studies (Interview DE5). Trautwein, Maaz, Lüdtke et al. (2006: 393) state that vocational academies in Baden-Württemberg are an attractive alternative to universities especially for *Gymnasium* graduates from less privileged social strata as well as for graduates from specialized academic upper-secondary schools (*berufliche Gymnasien*). This is especially true for those with an *Abitur* who would not have studied at all but rather opted for a more practical IVET program if there had not been the alternative of a dual study program. This alternative provides a salary and, in the case of the *ausbildungsintegrierende* programs, even the fallback

100 This feature represents an additional element of hybridity in dual study programs.

101 In some cases, for instance at the *Duale Hochschule Baden-Württemberg*, students with "merely" a university of applied science entrance qualification have to pass an additional aptitude test (DHBW, 2012).

option of an IVET certificate in case they drop out (Interview DE10).[102] In this context, dual study programs are becoming increasingly attractive for those, for example, with a migrant background (*Migrationshintergrund*), who have an *Abitur* but prefer a fast and relatively secure pathway into employment (Interview DE9).

In summary, it can be argued that dual study programs to some extent increased institutional permeability between VET and HE long before the current Europeanization processes set in:

> In my opinion, and the opinion of many other experts, the dual study programs were the first programs that began the process of bridging the gap between academic and vocational requirements within one educational program and they did so long before the Bologna process. (Interview DE3, translation LG)

However, while the expanding dual study programs are diminishing the institutional divide between VET and HE, they still co-exist with the more traditional organizational forms, such as universities in the field of HE and dual apprenticeship training in the field of VET (see Evolution Scenario IV).

The next section analyzes the impact of Europeanization processes such as the Bologna process and the Copenhagen process on dual study programs and the type of institutional permeability they represent.

6.3.3 Exploring the Impact of Current Europeanization Processes on Hybridization (Late 1990s to Present)

In the following I examine the influence of two major European educational policies on the development of the dual study programs: firstly, the Bologna process and the introduction of Bachelor degrees and, thereafter, the Copenhagen process and the implementation of the European Qualification Framework (EQF) in Germany.

The Bologna Process and the Introduction of Bachelor Degrees

1) Shorter Study Duration and Reduced Attractiveness of *Berufsintegrierende* and *Berufsbegleitende* Dual Study Programs

The Bachelor degree has been widely applied to dual study programs throughout Germany (Minks, Netz, and Völk, 2011: IV). The implementation of Bachelor degrees in dual study programs – as part of the Bologna process – had the straightforward consequence that these programs, which used to take four-and-a-half or five years, were mostly shortened to three or four

102 According to Schindler and Reimer (2011: 273), "[s]emi-tertiary as well as vocational training alternatives attract less privileged social strata due to the provision of salary."

years. This shortening poses a challenge to organizations offering dual study programs, as it leads to a temporal compression of the curricula, which has reduced the time allocated to practical work experience in the programs (Interview DE5; IHK Hessen, 2011).

Another effect of implementing Bachelor programs is that it reduces attractiveness of *berufsintegrierende* and *berufsbegleitende* dual study programs, whose number has diminished relative to *ausbildungsintegrierende* and *praxisintegrierende* dual study programs.[103] One reason for this is that for people who are already vocationally qualified and sometimes have several years of work experience, the new Bachelor programs are less attractive than the former vocational academy diploma (*Diplom Berufsakademie*), which was more or less seen as equivalent to today's Master qualification (Interview DE5). Moreover, for these people it is not as lucrative to enroll in a Bachelor program that does not necessarily increase their prospects of a pay rise given the current remuneration rates for holders of Bachelor degrees (Interview DE5). Another disincentive is that the financial support for HE studies for which individuals can apply (if they are eligible) is usually rather small compared to the salary they are accustomed to.[104] Thus, one downside of the introduction of Bachelor degrees in dual study programs is that the *berufsintegrierende* and *berufsbegleitende* dual study programs – which more directly address those with a VET certificate and work experience – seem to be negatively affected by the Bologna process.

2) The Accreditation Process for Bachelor Degrees

This aforementioned trend towards an academic drift is furthered by the accreditation procedure that is part of the implementation of Bachelor degrees within the Bologna process. Generally, accreditation implies that state-recognized Bachelor and Master programs have to comply with predefined formal standards (see European Association for Quality Assurance in Higher Education, 2005 for details). In fact, the Bologna Declaration states that HE institutes should also recognize credits acquired outside of HE (Bologna Declaration, 1999). Nevertheless, these standards have been criticized for being biased towards traditional university education (Beschoner, 2009: 13–14). With a view to dual study programs, one of the major challenges with regard to the accreditation process is the need to ensure that competences that are acquired during the practical training phases are also validly measured and awarded ECTS credits (Mattes, Zawacki-Richter, and Barthel, 2006: 42). Interestingly, the accreditation agencies that are responsible for the accredita-

103 *Berufsbegleitende* dual study programs do not qualify as hybrids (see Section 6.2).

104 Examples of financial assistance schemes include the Federal Training Assistance Act (*Bundesausbildungsförderungsgesetz*, BAföG), scholarships for professional advancement (*Aufstiegsstipendium*), and further education scholarships (*Weiterbildungsstipendium*) (see, e.g., SBB, 2012 for details).

tion of Bachelor degrees in Germany stipulate that credits for the firm-based part can only be given if it is thoroughly integrated into the dual study program (ASIIN, 2007: 59). However, no common understanding exists as to what practical competences at HE level should be or how they can be measured (see Reischl, 2008: 56). From this perspective, it is problematic that the ECTS credit system is not (yet) attuned to accounting for actual practices in the firm (Interview DE10; see also Beschoner, 2009: 13–14). In fact, the accreditation agencies often put a restrictive upper limit on credits that can be attained from the in-company practical work phases. There are examples of dual study programs that previously took five years to complete but now – with the shortened study duration – did not manage to get accredited as the responsible accreditation agency would only grant up to 30 ECTS credit points for work experience. In this way, the accreditation procedure for Bachelor degrees is reducing the scope for the duality of dual study programs or the extent to which VET and HE are being mutually integrated:

> They [the dual study programs, LG] all had their quality – the higher education institutes made sure of that. And obviously it is nice to be able to offer an accredited Bachelor degree. But if this is at the expense of the duality and the integration, then I think that is questionable. (Interview DE8, translation LG)

Thus, the accreditation process seems to be negatively affecting the hybrid character of dual study programs. One reason why providers of dual study programs are nevertheless complying with the standards that the accreditation procedure sets is that the Bachelor title increases both their domestic reputation and their international recognition. Indeed, due to the implementation of Bachelor degrees – which has become the global standard for first-cycle HE degrees – this international recognition of dual study programs can be considered as good (Interview DE1).

Another point that relates to the impact of the Bologna process on dual study programs is the gradual transformation of many of the vocational academies into HE institutes.

3) The Upgrading of Vocational Academies into *Hochschulen*

Over the last few years many vocational academies have been upgraded into *Hochschulen* (HE institutes). Examples can be found in Baden-Württemberg, where the vocational academies were merged and relabeled *Duale Hochschule* (cooperative university) by the *Länder* government in 2009 and thus formally upgraded within the organizational field of HE. There are a number of reasons for this transformation. Crucially, this upgrading eases the accreditation process that is necessary to grant Bachelor degrees, which, in turn, enhances the international recognition of dual study programs (Interview DE8). According to Beschoner (2009: 14), another major incentive for Baden-Württemberg was a fiscal one: The General Agreement on Trade in

Services (GATS) – a treaty of the World Trade Organization (WTO) aimed at breaking down trade barriers also in the field of education – calls into question state subsidies for an organizational form such as vocational academies. That is, as vocational academies are not formally part of the state education system (which the state is free to finance according to the GATS treaty), but are part of further education, the GATS treaty problematizes state subsidies for vocational academies. However, as the newly created *Duale Hochschule* is located within HE, Baden-Württemberg is free to finance it. In addition, this upgrading implies that the *Duale Hochschule Baden-Württemberg* can participate in the federal funding schemes for HE, such as the Higher Education Pact (*Hochschulpakt*) or the Excellence Initiative (Beschoner, 2009).

It remains to be seen to what extent this transformation from vocational academies into *Hochschulen* implies academic drift (see Beschoner, 2009: 15). However, it is interesting to note that some of the *Duale Hochschulen* are starting to engage in research activities. It is an open question whether this will crowd out and limit the involvement of small and medium-sized firms in dual study programs, as these are more cost-sensitive than large firms and more interested in the practical relevance of dual study programs.[105]

Finally, this chapter explores the impact of the Copenhagen process on dual study programs. In theory, one would expect the Copenhagen process to be better attuned to account for practice-based learning phases, which characterize these programs, than the Bologna process.

The Copenhagen Process and the EQF

The Copenhagen process signifies an attempt by VET stakeholders to catch up with the rapid developments that the Bologna process has sparked in European HE systems. The Copenhagen process was introduced in 2002, three years after the Bologna process was signed. The EQF is one of the most central policy tools within the Copenhagen process. The German Qualification Framework (DQR) that is being developed differs slightly from the original EQF.[106] However, like the EQF it is made up of eight levels (see AK DQR, 2011). The VET stakeholders try to use the negotiations around the EQF to make themselves heard vis-à-vis HE (Interview DE6).

So far the negotiations on the allocation of qualifications to the DQR have rather led to a number of inconsistencies that thwart this framework's intention to promote permeability between the fields of VET and HE. For example, regular IVET qualifications of three to three-and-a-half years are located at level 4 in the DQR (BMBF, 2012b) but the KMK wanted to place

105 Firms tend to have to invest more to offer a place on a dual study program than on a dual apprenticeship program (see, e.g., Harney, Hartz, and Weischet, 2001: 80 on the example of vocational academies). Therefore, for small and medium-sized firms (*Mittelständler*) dual study programs are a considerable investment (Becker, 2012).

106 See Appendix 11.3 for a copy of the EQF.

the *Abitur* one level higher than the qualifications from dual apprenticeship training (i.e., at DQR level 5 instead of DQR level 4), while the federal government and the VET stakeholders opposed the KMK's position.[107] This resulted in tough negotiations between VET and HE stakeholders. As it was not possible to reach a compromise, in 2012 the allocation of qualifications from general schooling and academic secondary schools to the DQR matrix was postponed for five years (Blings, 2012: 18; BMBF, 2012b). Furthermore, the *Meister* qualification was allocated to the same level as the Bachelor qualification (namely DQR level 6) (BMBF, 2012b). However, most HE stakeholders make a point of stressing that allocating the *Meister* to level 6 does not at all imply that it also grants access to academic Master programs (see Spöttl, 2012: 83). Rather, according to a KMK decision in 2009, a *Meister* is allowed to access Bachelor programs (KMK, 2009a). These two examples indicate that, on the one hand, the debate on the DQR has sparked an unprecedented level of interaction between stakeholders from VET and HE. However, on the other hand, these discussions to some extent have had the unintended effect of showing up and, with that, reinforcing the differences between VET and HE.

In theory, the DQR would have provided an opportunity to describe the dual study programs through learning outcomes in order to optimally account for both their elements of vocational training and academic education (Interview DE8). That is, the key principle of the EQF is its learning outcome orientation. This could be expected to be useful when it comes to coping with the complexity of the hybrid dual study programs. However, the development of methods to measure *berufliche Handlungkompetenz* (occupational decision-making competence) is lagging behind in the DQR process (Spöttl, 2012: 89). Beyond that, the dynamic around the DQR has taken a turn that implies that – rather than evaluating each qualification along separate dimensions (knowledge, skills, and qualifications) – each type of qualification (e.g., the Bachelor) is now categorically allocated to one of the levels of the DQR. This wholesale allocation of qualifications to just one level contradicts the EQF's basic idea of describing qualifications in a more detailed fashion, which would imply that a specific qualification can be assigned to different levels in the three dimensions of the qualification framework (knowledge, skills, and competences) (Interview DE8). However, the DQR locates dual study programs together with all other Bachelor programs in the same field of the matrix. Thus, for example, all Bachelor programs will be classified as DQR level 6 (AK DQR, 2011: 3) – without further consideration of the specificities of dual study programs (including their institutional proximity to the VET system). While this classification will probably not be detrimental in

107 The DQR negotiations have also been affected by regulatory competences being divided up on account of German educational federalism, which reduces the capacity of the state to coordinate and devise educational policies (see Klenk, 2011: 242).

regard to the expansion of dual study programs – as it legitimizes their HE status – it nevertheless fails to recognize the hybridity of these programs.

6.4 Summary

Table 13 provides an overview of some of the key historical developments described above. The first vocational academy was created in the early 1970s in Baden-Württemberg (without much political forethought). The hybridization – and increase in institutional permeability – that the dual study programs represent at the nexus of VET and HE is unexpected from the theoretical perspective of the German educational schism described in Part I of Chapter 3 (see also Graf, 2013b). The dual study principle then diffused to other *Länder* and, in addition, was taken up by universities of applied sciences.[108] The actual arrangement of dual study programs varies considerably. The specific implementation of dual study programs not only depends strongly on characteristics of the host organization (e.g., university of applied sciences vs. vocational academy; public vs. private organization) but also on the characteristics and corporate culture of the respective firm. In this context, the expansion and maintenance of hybridization in the form of dual study programs is facilitated by their location in a niche between VET and HE, which allows for the creative reinterpretation of traditional institutional elements from both fields (see also Graf, 2012).

However, the current Europeanization processes are rather blind to the hybrid specificities of dual study programs. Both the introduction of Bachelor degrees and the implementation of the EQF imply some academic drift with regard to dual study programs (as these move closer to HE). At the same time, the introduction of Bachelor degrees was a vehicle for the vocational academies to establish themselves within the HE sector. The new Bachelor degrees as well as the trend to upgrade vocational academies into *Duale Hochschulen* implies that the institutional divide between VET and HE is, on the one hand, widening (due to the drift of the dual study programs towards HE) and, on the other hand, narrowing (as the dual study principle is further expanding within the HE field). Furthermore, the Copenhagen process in the form of the EQF does not seem to be developing in such a way as to strengthen the link between dual study programs and the VET field. Due to the rigid interpretation of the DQR matrix in Germany, the framework (so far) fails to acknowledge the hybridity of dual study programs.

108 This, however, does not imply that universities of applied sciences are giving up their attempts to match classic universities in terms of academic reputation.

Table 13: Stylized overview of key historical developments related to hybridization between VET and HE in Germany

	General description	Pattern of institutional change	Institutional permeability between VET and HE
Phase I: Genesis of Dual Studies			
Early 1970s	Founding of first the vocational academies in Baden-Württemberg	Layering in the form of dual study programs at the nexus of dual apprenticeship and HE	Increase due to hybridity of dual studies
Phase II: Further Evolution of Dual Studies			
1970s–	Beginning of expansion of dual study principle	Diffusion to & reinterpretation in different *Länder*	Increase due to expansion of dual studies
1980s–	Dual study programs start to be offered at universities of applied sciences as well	Strategic redeployment of dual study principle by universities of applied sciences	Increase due to further expansion of dual studies
Impact of current Europeanization processes			
1999–	Dual study programs adopt Bachelor degrees	Drift of dual study programs towards HE	Increase as dual studies gain in popularity; decrease due to tendency towards academic drift
2009–	Trend towards upgrading vocational academies into *Duale Hochschulen* (e.g., in Baden-Württemberg)	Drift of dual study programs towards HE	Increase due to further approximation to HE; decrease due to trend towards academic drift

Source: Author's illustration

By adopting the dual study programs, German firms seem to have found a way to adapt the dual principle in the face of changing environmental conditions (e.g., the need to overcome rigidly defined occupational categories in the face of structural economic change). However, the dual study programs also imply a certain degree of de-standardization relative to traditional dual apprenticeship training. Arguably, firms try to benefit from this more liberalized institutional environment – compared to dual apprenticeship training at upper-secondary level – to advance their interests. One indicator for this is that there are only few employer/works council agreements (*Betriebsvereinbarungen*) regarding dual study programs (Busse, 2009: 20). That is, while dual studies are expanding the dual training principle to HE, this also implies greater capitalist autonomy for firms given that dual study programs are not subject to the same corporatist regulation as traditional dual apprenticeship training. This point will be elaborated in more detail in Chapter 9.

The following two chapters explore whether Austria and Switzerland display a similar pattern of development at the nexus of VET and HE as does Germany.

7. AUSTRIA: The Long-Term Historical Evolution of the *Berufsbildende Höhere Schule* (BHS)

This chapter first offers a short overview of upper- and post-secondary education in Austria. This is followed by a detailed description of the *berufsbildende höhere Schule* (BHS, higher vocational school with higher education entrance qualification) as a core organizational form at the nexus of VET and HE in Austria. Next, the genesis (Phase I) and the further evolution (Phase II) of the BHS is analyzed – as well as how its development relates to other sectors in the Austrian education system (see also Graf, Lassnigg, and Powell, 2012 on changes in the relationship between school-based VET and dual apprenticeship training).[109] After that, the impact of current Europeanization processes, mainly the European Qualification Framework, is explored. The final section provides a table that summarizes the most central processes with regard to the Austrian case of hybridization.

7.1 Introduction to Skill Formation in Austria

The Austrian Education System at Upper-Secondary Level[110]

Initial vocational training exists in the form of dual apprenticeship and full-time school-based programs. Dual apprenticeships, usually taken up by 15–18 year olds for two to four years, are offered in around 260 trades and comprise company-based training supplemented by attendance at part-time schools for apprentices (*Berufsschule*) spanning the boundary between the educational and employment spheres.[111] Furthermore, there are two major types of school-based vocational education and training. Firstly, *berufsbildende mittlere Schulen* (BMS) are VET schools that typically serve young

109 I would like to thank Lorenz Lassnigg, who provided me with very valuable information on the Austrian case. This chapter draws in part on Graf, Lassnigg, and Powell (2012).

110 See, e.g., IBW (2011) for a chart showing the basic structure of the Austrian education system.

111 In addition, supra-company apprenticeship training (two to four years, typical age: 15–18) was introduced in 2008. The target group of supra-company apprenticeship training is compulsory school graduates who cannot find a company-based apprenticeship place despite every effort. Crucially, it "has been set up as an equivalent part of dual VET side by side with the regular company-based variant" (Grün and Tritscher-Archan, 2009b: 33). While the school-based part of apprenticeship training takes place in the regular part-time vocational school for apprentices, practical training is provided by a supra-company training center (the so-called training workshops (*Lehrwerkstätten*)).

people between 14 and 18 years of age for the duration of three to four years and lead to vocational qualifications for mainstream employment.[112] Secondly, the BHS commonly offers 14 to 19 year olds a five-year course that leads to a double qualification, namely an upper level vocational qualification with a recognized vocational certificate *and* a certificate providing access to HE studies (*Matura*).

Compared to the German case, where dual apprenticeship and school-based VET largely cover different fields of training, dual apprenticeship and school-based VET in Austria are closer to a substitution system (e.g., Ebner and Nikolai, 2010).[113] Looking at the distribution of apprentices and students by economic sectors, it can be said that dual apprenticeship training, the BHS, and also the BMS are all significantly represented in preparing for the secondary and tertiary sectors of the economy. However, relatively speaking, dual apprenticeships train more people for the secondary sector than for the tertiary sector, while the opposite holds for the BHS. Both dual apprenticeship training and the BHS are weakly represented in the primary sector, where the BMS offers significant training (see, e.g., Ebner and Nikolai, 2012; Grün and Tritscher-Archan, 2009b: 31).

In terms of enrolments at upper-secondary level, the pathways within VET together make up about 80%, whereas academic secondary schools (*allgemeinbildende höhere Schule*, AHS), which leads to a general higher education certificate, accounts for around 20% of the students (see Table 14). Academic secondary education (age 14 to 18) at upper-secondary level takes one year less than the BHS.[114]

Table 14: Share of learners in tenth grade by educational program (%, sorted alphabetically) in Austria, school year 2007/08

Organizational form	%
Academic secondary school (AHS)	20.3
Berufsbildende höhere Schule (BHS)	27.3
Berufsbildende mittlere Schule (BMS)	13.0
Dual apprenticeship	39.5

Source: Grün and Tritscher-Archan (2009a: 9); see also Nowak und Schneeberger (2005); organizational forms sorted alphabetically

112 There are also BMS courses that last only one to two years and offer general education and preparatory VET training and serve as a bridge to other VET courses such as apprenticeship training (see also the note on prevocational schools in Section 7.3.2).

113 The declared goal is that dual apprenticeships "should be available in almost every area of economic activity, including new areas such as information technology" (Archan and Mayr, 2006b: 14). See Table 36 (Appendix 11.5.3) for a list of fields of training for the different organizational forms.

114 See Table 37 (Appendix 11.5.3) for the ratios of VET to general education and of schooling to practice in the different organizational forms at upper-secondary level.

The Austrian Education System at Post-Secondary Level

For people in employment who hold an initial VET (IVET) qualification there are a number of organizational forms that provide further vocational training (ISCED 5B). Foreperson courses and part-time industrial master colleges (*Werkmeisterschulen*), as well as building craftsperson schools (*Bauhandwerkschulen*), usually last two years and enable graduates to train apprentices and, after four years of relevant professional experience, to carry out a self-employed activity (see Tritscher-Archan and Nowak, 2011: 50–52 for more details). Within the Austrian higher education (HE) sector there are 22 public universities, 21 universities of applied sciences, 13 private universities, and 17 university colleges of education (see, e.g., BMWF, 2012). Table 15 shows the number of students enrolled in each of these types of HE organizations.

Table 15: Students at HE level (ISCED 5A) in Austria, 2010/11

Types of HE institute	Absolute	%
Public universities	284,085	81.1
Private universities	6,301	1.8
Universities of applied sciences	38,459	11
Teacher training colleges*	20,582	5.9
Theological colleges	238	0.1
Other**	4,985	1.4
Total***	350,247	101.3

* Including courses in continuing education (*Weiterbildung*) but not in further education (*Fortbildung*) (< 6 ECTS-Credits)
** Other courses with "university character"
*** Multiple counting excluded

Source: Statistik Austria (2011c); translation and calculation of % values by LG, the total does not add up to 100% due to rounding

Governance and Key Stakeholders in the Austrian Education System

This section introduces the key actors in Austrian social partnership. The Austrian Federal Economic Chamber (*Wirtschaftskammer Österreich*, WKO), the Austrian Chamber of Labor (*Österreichische Arbeiterkammer*, AK), and the Agricultural Chamber (*Landwirtschaftskammer*, LK), all with compulsory membership, and the Austrian Trade Union Federation (*Österreichischer Gewerkschaftsbund*, ÖGB) form the organizational base of Austrian social corporatism (e.g., Tálos, 2005: 186).

The Austrian Chamber of Labor is the statutory interest group organization of dependent employees. Membership is compulsory for all employees except public servants and management-level white-collar workers. The Chamber of Labor operates in the nine Austrian *Länder* (federal states). It works closely with the Austrian Trade Union Federation (with whom respon-

sibility for collective bargaining rests) on aspects relating to the economic and social situation of blue- and white-collar workers. The Austrian Chamber of Labor supports the Austrian Trade Union Federation with its important research unit.

As the main body representing Austrian workers, the highly centralized Austrian Trade Union Federation is more than just an umbrella organization. While it is not officially aligned with any one party, it is close to the Social Democratic Party of Austria. If the trade unions prefer school-based training, employers tend to favor the company-based component of VET (Piskaty, 1996: 51).

The Austrian Federal Economic Chamber is the statutory association representing employers' interests. Membership is compulsory for all independent entrepreneurs. Due to the structure of Austrian economic enterprises, it is dominated by small and medium-sized firms (SMEs) (Mayer, Lassnigg, and Unger, 2000: 20). The Federal Economic Chamber employs many specialists who take part in policy discussions. It operates in the nine *Länder* through a wide range of highly differentiated organizations representing the various branches of industry. It is usually the employers who initiate new vocational education and training ordinances (see, e.g., Hoeckel, 2010: 11–12).

Within the state administration, the following three ministries are most relevant for VET and HE: The Federal Ministry for Economy, Family and Youth (BMWFJ), which is in charge of the company-based portion of apprenticeship training with the involvement of the social partner organizations; the Federal Ministry for Education, the Arts and Culture (BMUKK), which is responsible for general schooling at primary and secondary level and for all school-based forms of VET (including the part-time vocational school that supplements apprenticeship); and the Federal Ministry of Science and Research (BMWF), which is in charge of HE, including universities and universities of applied sciences. However, governance for the universities of applied sciences sector is more decentralized than the university sector (see FHR, 2012) (see Section 7.3.2 for details).

There are two major parliamentary parties in Austria: the Social Democratic Party of Austria (*Sozialdemokratische Partei Österreichs*, SPÖ), which has strong ties to the Austrian Trade Union Federation and the Chamber of Labor, and the Austrian People's Party (*Österreichische Volkspartei*, ÖVP), the Christian democratic and conservative party. The Freedom Party of Austria (*Freiheitliche Partei Österreichs*, FPÖ), a national conservative political party, has also played a role in skill formation, especially from 1999 to 2005 when it was a junior partner in a coalition government with the Austrian People's Party.

Unlike the actors mentioned above, the Federation of Austrian Industries (*Vereinigung der österreichischen Industrie,* IV) is not an official party to the social partnership, although a representative is included in employers' nego-

tiation teams. The Federation of Austrian Industries represents most of Austria's large industrial enterprises as well as service enterprises and many SMEs; membership is voluntary. The Federation of Austrian Industries plays an important role in the context of interest mediation (Mayer, Lassnigg, and Unger, 2000: 20) and has gained in influence since it has been an active player within the European social dialogue. In contrast, the Austrian Federal Economic Chamber, like the Chamber of Labor, is excluded from this European dialogue as the main European interest organizations do not accept statuary membership organizations (Falkner, 1999: 229).

The next section describes the BHS – as well as the role of some of the abovementioned actors in the governance of this hybrid organizational form.

7.2 Description of the BHS

Austria has one organizational form, namely the *berufsbildende höhere Schule* (BHS), which meets the three criteria for hybridity discussed in Section 3.3.4. In this chapter, the BHS is referred to as a key organizational form that helps us to understand major developments in the Austrian skill formation education system. The BHS, which takes one year longer than the general academic schools to complete, offers a five-year course that is open to everyone who has successfully completed the eighth school grade.[115] However, depending on the specific educational background, i.e. the type of lower secondary school and grades in core subjects, students may have to take an entrance examination (see BMUKK, 2012b for details). Below I list the five available types of BHSs (BMUKK, 2012d: 27–29) sorted by student enrolment from largest to smallest (Statistik Austria, 2012: 102):

- Colleges of engineering, arts and crafts (*höhere technische und gewerbliche Lehranstalt*, HTL),
- Colleges of business administration (*Handelsakademie*, HAK),
- Schools and colleges of management and service industries (*höhere Lehranstalt für wirtschaftliche Berufe*, HLW),
- Schools and colleges of tourism (*höhere Lehranstalt für Tourismus*, HLT),
- Schools and colleges of fashion and clothing and of artistic design (*Höhere Lehranstalt für Mode, für künstlerische Gestaltung, für Produktmanagement und Präsentation, Modedesign und Produktgestaltung*),
- Colleges of agriculture and forestry (*höhere Lehranstalt für Land- und Forstwirtschaft*, HLFS).

115 The eighth grade is normally completed at age 14.

As mentioned above, the BHS leads to a double qualification, namely an academic baccalaureate and a VET diploma (*Reife- und Diplomprüfung*) (SchOG, 2012: §69). The academic baccalaureate provides access to HE, while the VET diploma grants the right to exercise higher-level occupations (*Berechtigung zur Ausübung gehobener Berufe*) (SchOG, 2012: §65). BHS students in many cases have to write a diploma thesis (*Diplomarbeit*) to fulfill the requirements for the double qualification (see BMUKK, 2012g for the newest curricular regulations). In line with the European Directive 2005/36/EC (EU, 2005), this diploma thesis at least has to fulfill the standard of a university diploma thesis at the level of a Short Cycle Higher Education Program (BMUKK, 2012f). In this context, BHS students are required to address problems creatively, both within teams and independently (e.g., Bundesgesetzblatt, 1997: 2552). For example, at the colleges of engineering, arts and crafts students – alone or in a team – have to fulfill work tasks in cooperation with a firm in so-called technicians' and engineers' projects (*Techniker/innen- und Ingenieur/innenprojekte*) (Archan and Mayr, 2006a: 53). In the colleges of business administration training also takes place in practice firms (*Übungsfirmen*, ÜFA) in which business processes are simulated (Archan and Mayr, 2006a: 52). An indication of the ambitious curriculum at the BHS is that its drop-outs often opt for academic secondary schools (AHS) (see also Statistik Austria, 2010b for general information on drop-out rates).

After three years of relevant professional experience, graduates from the colleges of engineering, arts and crafts and the colleges of agriculture and forestry can apply for the official title "Engineer" (*Standesbezeichnung Ingenieur*) to the Federal Ministry of Economy, Family and Youth and the Federal Ministry of Agriculture, Forestry, Environment and Water Management, respectively (Nationalrat, 2006: 1–2).[116] While these engineering titles are not officially academic degrees, they nevertheless indicate that the BHS enjoys a high reputation and is recognized as enabling students to acquire skills beyond the upper-secondary level. But even without the optional title of "Engineer," sometimes no distinction is drawn between graduates from BHSs and Bachelor graduates from universities of applied sciences in job adverts (see Lassnigg, 2011: 4). That is, employers often open the same job up to both BHS graduates and university of applied sciences graduates (Interviews

116 Until 2007 it was also possible for graduates from the colleges of engineering, arts and crafts to apply for the title of "Diploma HTL Engineer" (*Diplom-HTL-Ingenieur*) and for graduates from the colleges of agriculture and forestry to apply for the title "Diploma HLFL Engineer" (*Diplom-HLFL-Ingenieur*) after at least six years of relevant practical experience. Additional requirements were a written piece of work in their area of expertise as well as an oral examination (Nationalrat, 2006: 3–4).

AT2, AT8).[117] One major reason why many employers prefer graduates from a BHS to holders of Bachelor degrees is the higher proportion of practical training at the BHS (in this case: colleges of engineering, arts and crafts, HTL):

> In many companies the opinion that an HTL graduate is better than someone with a Bachelor degree who has not been to the HTL beforehand still dominates. This is simply because they assume that the HTL has such a high practical component that the job-specific elements of the HTL should be valued more highly – even if an internship is part of the Bachelor program. (Interview AT2, translation LG)

Considering that the BHS is formally located at upper-secondary level and the universities of applied sciences at HE level, the phenomenon that BHS graduates can to some extent compete with Bachelor degrees from universities of applied sciences (Interview AT11) indicates that the cultural-cognitive perception of a certificate on the labor market does not always correspond to its formal position within the state education system.[118]

As will be explored further in Section 7.3.2 below, the BHS effectively served as a substitute for universities of applied sciences until such were eventually created in the mid-1990s. For example, long before the universities of applied sciences were created, the colleges of engineering, arts and crafts – which enjoy the highest reputation amongst the different types of BHSs – played a major role in producing engineering technicians and skilled workers for middle management positions (*mittlere Führungskräfte*) (Interview AT11; Pechar, 2004: 38). Today, the special position of the BHS at the nexus of upper- and post-secondary level is also reflected in the fact that Austrian universities and universities of applied sciences must recognize BHS graduates' relevant knowledge and skills (e.g., BMUKK, 2012a; Grün and Tritscher-Archan, 2009b: 35). Thus, if studies are continued in the same subject area, the BHS degree should count towards university of applied sciences programs as well as university programs. For example, often it is possible for graduates from a BHS to start in the second or third semester at a university of applied sciences (Prokopp and Luomi-Messerer, 2009: 44). While this implies that BHS graduates may have fewer modules to accomplish when they embark on HE studies (AT2, AT8, AT11), there is no nationally defined standard for such recognition practices. Rather these practices are left to the individual HE institutes (Humpl and Nindl, 2008: 4).[119]

From an international point of view, the BHS is included in Annex II of Directive 2005/36/EC on the recognition of professional qualifications (EU,

117 Appendix 11.1 contains a detailed list of the expert interviews carried out in Austria.

118 See also Section 7.3 on BHS graduates' options for direct labor market entry.

119 However, a case study of the university of applied sciences *Technikum Wien* by Prokopp and Luomi-Messerer (2009: 50) shows that BHS graduates can cope well upon entering universities of applied sciences at second-year level.

2005). That is, in the context of professions to which access is formally regulated in one of the member states, a BHS qualification is regarded as equivalent to up to four years of post-secondary HE (BMUKK, 2012c; CEDEFOP, 2006: 2; Interview AT8). As Prokopp and Luomi-Messerer (2009: 40) state, "[t]his confirms that graduates from VET colleges [BHSs, LG] acquire professional qualifications for which in other European Union (EU) countries training at post-secondary level would be required." In the ISCED classification, the BHS is assigned to ISCED level 4C (BMUKK and BMWF, 2008a: 13), whereas dual apprenticeship and general academic schools (as in Germany and Switzerland) are assigned to ISCED level 3. ISCED level 4 refers to post-secondary non-tertiary education, i.e. programs that "straddle the boundary between upper-secondary and post-secondary education from an international point of view" (UNESCO, 2006: 31).

As the BHS is often perceived to be equivalent to some forms of HE training, it also represents one of the central points of contention in the debates around the allocation of the different Austrian qualifications into the National Qualification Framework (NQF). For example, the Austrian Chamber of Labor supports the BHS's double qualification being assigned to NQF level 5 (AK, 2008: 13), i.e. the same level to which HE short-cycle programs are assigned according to the Dublin descriptors (see Joint Quality Initiative, 2004 and Section 7.3.3 for details on the Dublin descriptors).[120]

Hybrid Governance

In terms of governance, responsibility for the BHS lies with the Federal Ministry for Education the Arts and Culture with some involvement of the social partners. The BHS is part of VET governance as it offers a VET diploma as part of its double qualification. Thus, the BHS is subject to the Vocational Training Act as far as access to formally regulated vocations or the pay scale classification are concerned (see Bundeskanzleramt, 2012a). More generally, in Austria the social partners have very close ties to the political parties and ministries (*Naheverhältnis*) and can also use these connections to influence policy-making in the field of school-based VET. The ministries and political parties either formally or informally incorporate the social partners into the process of political opinion formation. Moreover, it is not unusual for one person to hold, for example, a position within the party as well as within either the Economic Chamber or the Chamber of Labor (*Personalunion*). With regard to full-time VET schooling the social partners have the right to submit assessments on topics such as reforms of school laws and curricula. In addition, they provide students, schools, and firms with vocational information and guidance and also support the building of links be-

120 The discussions around the NQF in Austria are explored in more detail in Section 7.3.3.

tween the full-time vocational schools and firms (Archan and Mayr, 2006a: 22).

In summary, the BHS can be considered as a hybrid organizational form according to all the three criteria described in Section 3.3.4. It combines learning processes from both VET and HE (Hybridity Criterion I). This combination refers, for example, to the BHS double qualification, the BHS diploma thesis, as well as (in some cases) the possibility of being awarded an engineering title. At the same time, the BHS straddles the boundary between upper- and post-secondary education (Hybridity Criterion II). This is, for instance, reflected in its recognition on the labor market and in its international recognition, as well as by the debate concerning the NQF, and the possibility of BHS graduates to enter university of applied sciences programs at, for example, second-year level. Furthermore, the BHS is not solely subject to traditional academic school governance but also integrates aspects of governance typical for the VET sector (Hybridity Criterion III).

The following process analysis addresses the question of how the BHS was established and developed over time.

7.3 Process Analysis of Hybridization

7.3.1 Phase I (Genesis): The Historical Roots of the BHS *(18th Century to 1970s)*

This section provides a short history of Austria's skill formation system up to the 1970s, when the consolidation of its central institutional tenets was largely completed. This historical sketch focuses on the historical roots of full-time vocational schooling to explain why in Austria full-time school-based VET plays a different and more dominant role than is the case in Germany or Switzerland. Moreover, this historical analysis of the specific role of full-time vocational schooling in Austria serves to illustrate the complexity of the institutional divide between VET and HE in Austria.

Dual apprenticeship training, which was originally organized entirely by the guilds and craft organizations, has the longest tradition, which stretches back to the 12th century (e.g., Gruber and Ribolits, 1997: 19). However, the first cornerstones of the modern Austrian education system were laid during the enlightened absolutist monarchy in the era of the French Revolution (Engelbrecht, 1984), when the first high-level VET institutes were established by the state and on various private initiatives. The first such institutes were founded under the reign of Maria Theresia in the second half of the 18th century (Barabasch, Kurz, and Schlögl, 2009) and already included some

vocational programs offering access to HE (Rothe, 2001: 65). Furthermore, reforms inspired by the Austrian politician and school reformer Armand von Dumreicher represented a crucial phase in the institutionalizing of school-based VET (Schermaier, 1999: 133). This late-19th century reform movement adopted the French institutions of school-based training as a model and profoundly shaped today's system of secondary and higher education. Thus, Dumreicher's reform proposals further promoted the development of a well-organized, centralized vocational schooling system that was institutionalized in Austria between the 1880s and World War I (Gruber and Ribolits, 1997: 27) and also attempted to broadly institutionalize vocational schools to accompany apprenticeships (which at the time were still provided on a voluntary basis). Interestingly, one of the Swiss experts stated that the special character of the school-based sector in Austria has also been strongly influenced by the historical legacy of the Austro-Hungarian Empire, as in Hungary school-based VET played (and plays) a more important role than in the DACH countries:

> One word regarding Austria: The fact that they have this double field [dual apprenticeship training and full-time vocational schooling, LG] also has to do with their history, because it used to be Austria-Hungary. And from Hungary came these sectors of full-time vocational schooling, while the dual system came from Germany. Thus, this can be explained by the fact that Austria is a leftover-state of the Austro-Hungarian Empire. (Interview CH9, translation LG)

While I did not come across this position during my fieldwork in Austria, it seems a plausible claim considering the close ties Austria once had with Hungary and given that the origins of school-based VET reach back to the reign of Maria Theresia (1717–1780), who was Archduchess of Austria and Queen of Hungary.

After World War I and World War II we see periods in which small state corporatism exerts a strong influence on the further institutionalization of the Austrian skill regime. After World War I, Austria lost some of its most economically developed regions and consequently most of its internal trading partners (Schermaier, 1999: 6). Immediately after World War I, the new republic (First Republic, 1918–1938) was constituted in economically and socially challenging circumstances, with the palpable danger of revolution (Katzenstein, 1984). Crucially, key social regulations of the Austrian social partnership originate from this period of uncertainty. During the succession of different regimes in the interwar period, the apprenticeship system was expanded. In this context, the accompanying part-time school was increasingly subjected to local regulation, which laid the groundwork for the influence of the social partners in its governance (Engelbrecht, 1988: 189–197).

The end of World War II, when Austria was reconstituted as an independent country, signifies another historical breakpoint. Today's institutional arrangements in education and training as well as social partnership still rest

on agreements representing the socio-political status quo of the postwar era (Pelinka, 1996: 38). Soon after World War II, negotiations started to initiate reforms in the skill formation system, including placing full-time VET schooling under a comprehensive system of federal control. In this context, the Ischler Conferences (*Ischler Tagungen*) from 1946 to 1952 were especially significant events, for example because the structure of full-time VET schooling was renegotiated on the basis of agreements amongst the system's collective actors (BMUKK, 2009: 20). The post-World War II period up to the early 1970s represents the "heyday" of Austrian corporatism (see Tálos, 2005: 192; Katzenstein, 1984), in which full-time school-based VET and dual apprenticeship training were brought together within an overarching VET system, albeit as distinct elements.

The period from 1962 to the mid-1970s witnessed an extensive reorganization of the education system, as the profiles of all educational organizations were renewed and policy-makers had to recognize that demand had risen dramatically. The key drivers of parliamentary educational policy were the two main parties, the Austrian People's Party (ÖVP) and the Social Democratic Party (SPÖ). The School Organization Act (*Schulorganisationsgesetz*) of 1962 (see Bundesgesetzblatt, 1962) was the product of extended negotiations between the political parties and tried to resolve the traditional political conflict about schools by codifying basic organizational structures within constitutional laws. Some observers have argued that this law represents an analogous case to social partnership because of the long-lasting and concerted negotiations between the dominant parties, for which the concept of "school partnership" (*Schulpartnerschaft*) was coined (Pelinka, 1996: 33, 35). At the time, both the ÖVP and SPÖ were interested in reaching a compromise to prove the viability of the grand coalition (Engelbrecht, 1988: 479). Yet, the road to negotiation had also been paved by constitutional law, meaning that at the time changes to the educational structure could only be made by a two-thirds parliamentary majority (see Engelbrecht, 1998: 19–20).

It is during this period that the BHS became institutionalized in its present-day form. Thus, the Act of 1962 also described the basic tenets of the modern BHS (Bundesgesetzblatt, 1962: 1190–1198). It should, however, be noted that, in line with the long-term historical development of Austrian school-based VET, many of the educational institutes that are today BHSs were created earlier. However, the BHSs were established at different times. For example, the educational institute that eventually became the HTL (BHS) Steyr was originally founded in 1874 (HTL Steyr, 2012) and that of the HTL (BHS) Bregenz in 1908 (HTL Bregenz, 2012). Yet, the BHS that is said to have the oldest historical roots, namely the BHS Spengergasse in Vienna, can be traced back to the founding of the Imperial and Royal Commercial Drawing Academy (*kaiserlich-königliche Commerzialzeichnungsakademie*) by Maria Theresia in 1758 (HTBLVA Wien 5 Spengergasse, 2012).

The above historical sketch shows that the institutionalization of the Austrian skill regime involves – in addition to dual apprenticeship training and general academic schooling, which are usually considered as typical for the DACH countries – a strong school-based VET trajectory. Most importantly, the Austrian skill formation system should be understood as a segmented one – with German, French, and possibly Hungarian influences – in which academic education, dual apprenticeship training, and full-time school-based VET have evolved separately. While the deepest institutional divide at upper-secondary level is between dual apprenticeship training and academic secondary schools, full-time school-based VET in the form of the BHS is located somewhere in between these two different organizational forms. Based on the terminology introduced in Chapter 3, the BHS can be understood as a form of layering at the nexus of dual apprenticeship training and academic schooling. The BHS converts and combines key institutional elements from the fields of VET and academic education and blends them within a hybrid organizational form (see Hybridization Hypothesis and Genesis Scenario II). An example of this hybridity is the possibility of acquiring the double qualification of *Reife-* and *Diplomprüfung*, and in some cases also the title of *Ingenieur*. Thus, the hybrid BHS also represents a form of institutional permeability at the nexus of VET and HE (see also next section).

7.3.2 Phase II (Further Evolution): The BHS as a Key Factor in the Modern Austrian Skill Regime (1970s to Present)

In the second phase of the process analysis, the expansion of the BHS (starting in the 1970s) is described as well as a number of developments that are directly or indirectly affected by this expansion: the marginalization of dual apprenticeship, the late establishment of the universities of applied sciences (1994), and the reforms to safeguard dual apprenticeships (late 1990s onwards).

The Rise of the BHS

The expansion of the BHS from around the 1970s onwards signifies a process that triggers (although not alone) many of the subsequent processes described in this process analysis. Tables 16 and 17 illustrate the quantitative growth of the BHS. While the categories and timescales presented in these tables differ to some extent, it is still possible to see that the BHS grew rapidly from the 1970s to the turn of the century.

Table 16: Development of participation rates in upper-secondary education in Austria, 1924–1993 (% of 14/15 to 19 year olds)

	1924 (23)	1936 (34)	1953	1963	1973	1983	1993
Academic school	2	5	3	6	12	12	14
Teacher training	1	1	1	2	2	1	2
BHS	2	2	3	4	7	13	21
BMS	2	4	6	6	11	13	14
Apprentice-ship	11	16	31	33	28	29	30
Total	18	28	44	52	59	68	80

Note: The years in brackets are the points of measurement of the demographic values; as indicated, they differ slightly from the years used for the measurement of participation rates. Please also note that since the 1970s, teacher training is mainly carried out at the post-secondary level.

Source: Lassnigg (1998: 20)

Table 17: Distribution of students in ninth grade in Austria, school years 1980/81–2009/10

	1980/81	1990/91	2000/01	2009/10
BHS[1)]	19.5	29.3	33.2	33.1
BMS	30.2	26.5	22.1	19.8
AHS	20.0	20.8	22.4	24.6
Polytechnische Schule[2)] *	30.3	23.4	22.3	22.5
Total	100	100	100	100

[1)] Including *lehrerbildende höhere Schulen* (BHS for the teaching professions)
[2)] Including *allgemein bildende Statutsschulen* und *Sonderschulen* (special needs schools)
* The *Polytechnische Schule* (prevocational school, 1 year, typical age: 14–15) offers tailored guidance for future career decisions and is designed to prepare students for apprenticeship training in a specialist area of their choice. A prerequisite for taking up an apprenticeship is the completion of nine years of compulsory schooling. Hence, after eight years of lower secondary education, a proportion of those who want to enter an apprenticeship complete the ninth grade in the one-year prevocational school. An alternative to attending a prevocational school is the completion of one year of compulsory schooling in a BMS (see, e.g., BMUKK, 2012e).

Source: Statistik Austria (2011a: 29); translation by LG

A crucial factor driving the expansion of the BHS (especially compared to dual apprenticeship training) are structural changes in the economy. An example of these structural changes is the privatization and subsequent splitting up of previously state-owned large enterprises and industries. These enterprises used to be the major providers of apprenticeship places, but ceased to be so after their privatization (Interviews AT10, AT1, AT9). A second example is the shift towards the service and knowledge economy, or

"knowledge society," and away from the traditional industries that can be considered as the home domain for dual apprenticeship training (see also Chapter 1). Dual apprenticeship training programs are more attuned to the manufacturing sector than school-based VET is (see also Section 7.1). In this sense, school-based VET was able to adjust more easily to the sectoral change towards a service and knowledge economy. As a result, the attractiveness of the BHS increased in relation to dual apprenticeship training.

Furthermore, the educational aspirations of individuals and their families changed – partly driven by the structural changes in the economy described above – in favor of expanding the BHS and in a way that was unexpected by policy-makers (Lassnigg, 1995: 462–463). Basically, the BHS served as a kind of outlet (*Ventil*) for the risen educational aspirations, given the link it provides to HE (which dual apprenticeship did not offer at the time) (Interview AT1, AT8). The BHS was (and still is) an especially attractive option for children from lower status families who would not enter general academic education (AHS) but for whom the BHS offers a relatively risk-free pathway due to the double qualification it offers in only five years. At the same time, the expansion of the BHS did not conflict with the interests of social elites with regard to status reproduction, as the BHS does not question the existence of academic secondary schools and universities. Thus, the BHS constituted a rather unexpected path of successful upward mobility for young people from families with lower socio-economic status (e.g., Interview AT8, AT1).

In addition, small state corporatism comes into play again as well. For example, the expansion of the BHS was enabled by a Social Democratic-led government (1970–1987), which did not have this expansion on its agenda but was nevertheless willing to finance it (Graf, Lassnigg, and Powell, 2012). To make a more general point, small state corporatism, with its tendency to facilitate compromise, enabled the expansion of the BHS, which would probably have turned out to be more conflict-ridden under other macro institutional circumstances. However, the expansion of the BHS also led to a number of changes in the relationships between the various organizational forms in the Austrian skill regime that were unintended by policy-makers and which are described below.

Marginalization of Dual Apprenticeship

The expansion of the BHS can be seen as layering on top of the dual apprenticeship system. This layering has contributed to an unintended downward drift of the dual apprenticeship training system. The expansion of the BHS has marginalized the dual training apprenticeship system by taking away the "innovative pressure" on it (see Lassnigg, 1999: 29). While the BHS absorbed the demands of the changed environment (e.g., related to the sectoral economic change), dual apprenticeship training tended to stick to its tradi-

tional functions. In this sense, in the short run the expansion of the BHS has led to an increase in the institutional divide between dual apprenticeship training and HE. For instance, as the BHS took away pressure to innovate with regard to dual apprenticeships, an opportunity was missed to upgrade the curricula of dual apprenticeships – which could have reduced the normative and cultural-cognitive gap between dual apprenticeships and HE. The downward drift of dual apprenticeship negatively affects the way in which Austrians perceive the quality of dual apprenticeship training relative to HE.

Late Founding of Universities of Applied Sciences

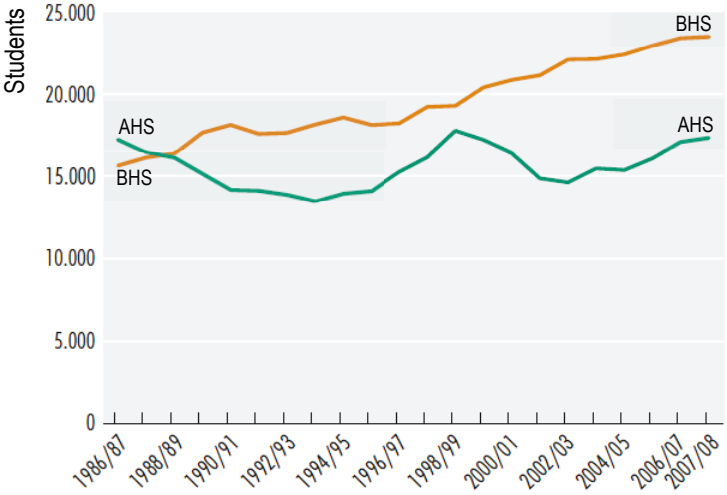
The success story of the BHS also contributed to shifting relations between different organizational forms in another significant way. As the BHS partly extends into a realm normally reserved for HE (see Section 7.2), it for some time served as a substitute for universities of applied sciences. In the early 1970s the Austrian government took a decision not to introduce universities of applied sciences (see Hackl, 2008: 22). Interestingly, this decision was made at a time when universities of applied sciences were established in a number of other countries, such as Germany, as part of a general trend towards educational expansion (Pechar, 2004: 37). However, in Austria the expansion of the BHS absorbed much of the pressure of upward educational expansion.

In this context, one explanation for this development is that at the time the social democrats were in favor of a uniform structure at the HE level for fear of hierarchy and elite formation. In addition, the BHS lobby disliked the idea of universities of applied sciences, which they saw as a threat to their strong position in the Austrian skill regime (Pechar, 2004: 45–46). In particular, SMEs were (and still are) in support of the BHS as it provides the kind of "hands-on" competences with a strong theoretical foundation that fit well with their skill portfolio. That is, representatives of the Austrian SMEs were worried that graduates from universities of applied sciences would not match their actual skill demands (Interview AT11). Many Austrian firms also appreciated the fact that the younger graduates from the BHS are usually cheaper to employ than graduates with academic degrees (Interview AT2, AT6). Thus, it is not surprising that the Chamber of Commerce, which is dominated by SMEs, insisted that the BHS serves the Austrian economy better. In addition, at the time the OECD praised the BHS (see, e.g., Bundesministerium für Unterricht und Kunst, 1979). Furthermore, the universities wanted to safeguard their monopoly in HE (Pechar, 2004: 39) and, hence, favored the expansion of the BHS over the creation of universities of applied sciences.

In this context, it is interesting to note that while Austria has experienced a clear expansion of universities since the 1970s (Statistik Austria, 2010a: 33), only a proportion of graduates from the BHS enter universities. Figure 1

shows that since the late 1980s there have been more baccalaureate graduates from the BHS than from academic secondary schools (AHS). Nevertheless, the proportion of BHS graduates entering universities was (and still is) small relative to that of AHS graduates. For example, in 1990/91, shortly before the universities of applied sciences were introduced, the proportion of domestic first-year students at universities who received their baccalaureate from an AHS was 61%, while those who received it from a BHS only made up a share of 36% (3% of the freshers at university had some other educational background) (Unger, Zaussinger, Angel et al., 2010b: 35, calculation of % values by LG). In 2005/06, when the universities of applied sciences were firmly established in the Austrian education system, 36% of all people entering universities and 53% of all those entering universities of applied sciences were BHS graduates (Lassnigg and Vogtenhuber, 2009: 66). At the present time, 84% of the AHS students and around 55% of the BHS students com-

Figure 1: Number of baccalaureate exams (*Reifeprüfungen*) sorted by organizational form, Austria, 1986–2008



Note: The number of baccalaureate exams includes those from special forms such as post-secondary courses in VET (*Kollegs*), schools for people in employment (*Schulen für Berufstätige*), and add-on courses (*Aufbaulehrgänge*). The BHS figure includes the BHS for the teaching professions (*lehrerbildende höhere Schulen*).

Source: Figure copied from Statistik Austria (2010a: 41); translated and adjusted for printing purposes by LG

mence HE studies within three years after having received the baccalaureate (Die Presse, 2012). These figures support several statements by the experts interviewed, namely that the BHS has never been merely an alternative route to universities, but offers a promising pathway for direct labor market entry in its own right. Due to its special status, the BHS served as a functional equivalent for universities of applied sciences and, thus, delayed the latter's introduction. However, universities of applied sciences were eventually established in 1994 (Hackl, 2008: 33). There are a number of reasons why universities of applied sciences were eventually founded. Firstly, in the meantime the universities were heavily overburdened with students, which meant that universities themselves were suddenly in favor of some sort of relief (see Pechar, 2004: 42, 45–46). Secondly, the introduction of the universities of applied sciences was, arguably, an attempt by policy-makers to gradually introduce new managerial practices into the HE system, since the traditional universities had previously proved resistant to such reform (Interview AT9). One of the experts stated that the reason why universities of applied sciences were not created through an upgrading of the BHS but from scratch was an attempt to limit the influence of Austrian social partnership in HE relative to the influence it has in the traditional VET sector:

> But in retrospect and based on many years of experience in the vocational training sector, I would say that one reason was to prevent this culture, which is quite strongly oriented towards the economy and the social partners, from being transported into this new [university of applied sciences] sector, and to try to start from scratch. (Interview AT4, translation LG)

Thus, thirdly, the creation of universities of applied sciences was not accompanied by a major intervention in the structure of the popular BHS (Pechar, 2004: 50), which reduced BHS stakeholders' opposition to this development. Fourthly, moving from the domestic to the international level, the OECD had in the meantime changed its opinion and criticized the lack of HE institutes (such as universities of applied sciences) in its Austria country reports (see OECD, 1991). Fifthly, influences from abroad also became increasingly relevant in the context of preparations for Austria's accession to the EU in 1995. In the debate on Austria's accession to the EU, key stakeholders in the Austrian VET system realized that the specificity of BHS qualifications would probably not be understood within the EU and, therefore, would not be recognized as equal (Pechar, 2004: 42; see also Dermutz and Gstetter, 1991). These worries also, for example, referred to the title of "Engineer" awarded by some of the BHSs (Schmid, 1992: 30). As a result, within the national discourse the line of argument gained prominence that it was necessary to establish universities of applied sciences in order to meet international educational standards in an EU-wide comparison (Interview AT6, AT1). Sixthly, Austria's specific relation to the EU became relevant. For Austria, as a small export-oriented country and late candidate for EU accession, establishing the

universities of applied sciences was a means to adjust to international isomorphic pressures. Beyond that, it was also intended to facilitate apprentices' access to the HE sector (Winkler, 2008: 56–61). However, Section 8.2 indicates that this goal was only achieved to a limited extent.

The six above-mentioned factors help us to understand why the universities of applied sciences were eventually established in 1994 as well as why they were not created by upgrading the BHS but from scratch:

> Unlike in other countries, in Austria the universities of applied sciences sector was created from scratch. That is, it was built from zero and is not, like in some other countries, based on what was already there or based on parts of the existing system of vocational schooling. (Interview AT4, translation LG).

That is, in most other countries, such as Germany or Switzerland, if some form of high-level school-based VET institutes existed, the common pattern was to upgrade the majority of them into universities of applied sciences (see also Schneeberger, 2003: 11). In contrast, Austria today not only features universities of applied sciences but also a highly developed system of BHSs, which is unique within the group of collective skill systems. However, this parallel existence of BHSs and universities of applied sciences also holds the potential for friction, as BHSs and universities of applied sciences to some extent serve as functional equivalents. At the same time, somewhat paradoxically, around half of the in-take of the universities of applied sciences are BHS graduates. For those students that often means five years of vocational specific training at a BHS plus three years of additional training in the same occupational field at a university of applied sciences (or a little less if prior learning is accredited). However, the state is willing to finance both these organizational forms (see discussion in Chapter 9).

The next section once again draws attention to the way in which the expansion of the BHS has been affecting dual apprenticeship training and (indirectly) supported a number of institutional reforms in the dual training system.

Reforms to Safeguard Dual Apprenticeship Training

The same factors that led to the downward drift of the dual apprenticeship training system continued or even accelerated up to the 1990s. In fact, the competition between dual apprenticeship training and the BHS worsened to the detriment of dual apprenticeships (Interviews AT2, AT6). The second half of the 1990s then saw (another) crisis on the apprenticeship market during which the demand for training places outstripped the supply of available training places.[121] This challenge – in combination with the process of

121 This also indicates that full-time school-based VET is not in a position to fully absorb strains on the apprenticeship market. This, in turn, indicates that dual apprenticeship training still plays a significant role in the Austrian skill regime.

downward drift – eventually triggered a coordinated response by almost all stakeholders in the dual apprenticeship training system. In this context, coordination between the key actors was facilitated by the macro condition of small state corporatism and its strength to reach consensus on issues that may have been blocked in other socio-economic contexts.

In Austria both the Federal Economic Chamber and the Federal Chamber of Labor have a great interest in a healthy dual apprenticeship training system. On the one hand, this is because dual apprenticeship training is the segment of the skill formation system in which they have the greatest stakes in terms of influence. On the other hand, the Federal Economic Chamber and the Federal Chamber of Labor have lost some of their influence due to Austria's accession to the EU and the deepening of Europeanization more generally. While the Austrian state plays the pivotal role when it comes negotiating and downloading European educational policies (see Tálos, 2005: 197), the two chambers are banned from the social dialogue at European level due to their status as statutory interest group organizations with compulsory membership (see Falkner, 1999: 229). However, even beyond this European influence, the state tends to be taking an increasingly active role in Austria in recent years, taking away some decisions from the social partners, partly due to the gradually increasing electoral competition in the domestic arena (Kittel and Tálos, 1999). Faced with this general loss of political influence, the social partners have developed an even greater interest in steering the dual apprenticeship training system – as one of the few policy fields in which they still maintain significant influence (see Pelinka, 1996: 36). Thus, as the importance of education for economic and social well-being is increasingly acknowledged by the social partners (Piskaty, 1996: 49), social partnership is expanding in the arena of education (Pelinka, 1996: 38). Furthermore, the actors in Austria's social dialogue have increasingly realized the potential of VET as a means to participate in social policy-making more generally (Mayer, Lassnigg, and Unger, 2000: 79–80).

From this perspective, it is not surprising that the Federal Economic Chamber and the Federal Chamber of Labor pushed for and were in favor of the incremental reforms of the dual apprenticeship training system. Reforms were implemented from the late 1990s onwards with the backing of all major stakeholders. Examples include the law to secure youth training (*Jugendausbildungsgesetz*, 1998–2008), which provides training for young people unable to find an apprenticeship as well as funds to firms to provide additional apprenticeships (*Blum-Förderung*). In addition, a new modular structure for apprenticeship training was introduced. It runs in parallel to the old one and provides a basis for broader basic training at the beginning and more specialized training at the later stages of the apprenticeship without changing the overall shape of the qualification. Furthermore, workshop-based apprenticeship training (two to four years; typical age: 15–18) was introduced in 2008,

in which practical training is provided either via internships in firms or by training centers (so-called training workshops).[122] Beyond that, there is one reform that aims to increase the attractiveness of dual apprenticeship training by facilitating pathways into HE, namely the introduction of the vocational baccalaureate. As this latter reform directly affects institutional permeability between VET and HE, it requires further discussion.

The vocational baccalaureate is an examination that provides access to HE for those who have completed an apprenticeship (as well as graduates from BMS programs that take at least three years). Preparatory courses are offered at institutes of continuing education and training. Four exams have to be passed, the content of which relates to the curriculum of an academic secondary school: math, German, one modern foreign language, and a specialization from initial vocational training or vocational practice. Candidates have to pay exam fees (although they can apply for a grant or subsidy) (see Tritscher-Archan, 2009b: 41). In 2008, this institutional innovation was further consolidated when the *Lehre mit Matura* (apprenticeship with baccalaureate, three to three-and-a-half years, typical age: 15–18) was introduced, meaning that apprentices can now already prepare for their vocational baccalaureate examination in parallel to apprenticeship training. Apprentices who prepare for the vocational baccalaureate in parallel to their VET attendance are exempt from the above-mentioned fees for the preparatory courses and exams. Depending on the individual case, it is also possible to extend the three-year apprenticeship training if the individual workload would otherwise be too high. Although still a pilot project, *Lehre mit Matura* has been rapidly adopted (e.g., DerStandard, 2009). The major target group is students who wish to simultaneously attain a vocational qualification and a university entrance qualification and have relatively good grades. Moreover, the expert interviews give the impression that the BHS has served as a role model and "cognitive bridge" for the introduction of the vocational baccalaureate and *Lehre mit Matura*. Both the vocational baccalaureate and the *Lehre mit Matura* reforms point towards a narrowing of the institutional divide between dual apprenticeship training and HE. It is still an open question what the long-term impact of these two reforms of dual apprenticeship training will be.

In summary, in Phase II (Further Evolution) the development of the BHS is linked to other major dynamics in the Austrian skill formation system (e.g., the delayed introduction of the universities of applied sciences as well as the marginalization and later the reform of the dual apprenticeship system). Historically, the BHS represents a successful hybrid model at the nexus of

122 In workshop-based apprenticeship training, which is financed jointly by unemployment insurance and the state and implemented through the Public Employment Service, the rights and obligations are the same as those for standard apprentices, except that training remuneration is lower.

VET and HE that flourishes next to the standard organizational forms in both VET and HE (see Evolution Scenario IV).

In the next section I explore to what extent the Copenhagen process and the Bologna process are currently affecting the relationship between the BHS to the other major organizational forms in the Austrian skill formation system.

7.3.3 Exploring the Impact of Current Europeanization Processes on Hybridization (Late 1990s to Present)

Austria is a member of both the Bologna process for HE and the Copenhagen process for VET. While the BHS straddles the boundary between VET and HE, it formally belongs to the VET field. Hence, the BHS is mainly affected by the Copenhagen processes and its major policy tool: the European Qualification Framework (EQF). Therefore, in the Austrian case my analysis of the impact of current Europeanization processes focuses mainly on developments around the implementation of the national qualification framework (NQF) in Austria.[123] This is still an ongoing process: The simulation of the detailed allocation of formal qualifications to the NQF began in 2011 and has not yet been completed (BMUKK, 2011a: 4). Therefore, my analysis is primarily based on debates that took place in the NQF consultation process (2008–2010) and, more precisely, on a document analysis of key statements submitted by various actors in this consultation process.

The NQF Consultation Process

In 2008, the Federal Ministry for Education, the Arts and Culture and the Federal Ministry of Science and Research informed all relevant stakeholders about government plans to develop an NQF and gave them the opportunity to state their positions. In response, 276 official statements were received, showing the great interest of all stakeholders in the NQF process.

One of the central questions addressed in these statements was whether the Austrian NQF should provide a *regulative frame* or an *orienting frame*. In this context, a *regulative frame* would allow the individual certification of competences (like, e.g., in the UK), whereas an *orienting frame* would "merely" serve to provide increased transparency but no entitlements or access authorization. In this context, the Austrian Federal Economic Chamber (WKO, 2008), the Federation of Austrian Industries (IV, 2008), and the Austrian Trade Union Federation (ÖGB, 2008) all supported an *orienting* as

123 However, the analysis will also show that the Bologna process and the introduction of Bachelor degrees indirectly play a key role in the negotiations on the allocation of VET and HE qualifications to the NQF matrix.

opposed to a *regulative* framework. The Austrian Federal Economic Chamber, and especially the Federation of Austrian Industries, were concerned about the possible costly consequences of a regulative framework with regard to collective bargaining agreements and labor market rights (NQR Expertengruppe, 2008b: 1). The Austrian Trade Union Federation's rationale for opposing a regulative framework was that anything other than an orienting frame would lead to conflicts and would endanger the success of the NQF. Only the Chamber of Labor (AK, 2008: 3) emphasized the need to allow regulative elements to play a role in the NQF in the medium term in order to make the NQF more valuable for employees.

At the end of 2008, all 276 stakeholder statements were synthesized by an NQF Expert Group made up mostly of scientists with different specializations. A report by the NQF Expert Group laid the foundation for the further decision-making process on the NQF. While the assignment of the different organizational forms to the NQF's eight different and hierarchical levels was discussed in the consultation process (see BMUKK and BMWF, 2008a: 5), the Expert Group recommended postponing definite decisions about vocational qualifications until the descriptors for the different levels had been clearly defined and objective verification principles were in place (NQR Expertengruppe, 2008a: 14).

Based on the synthesis by the NQF Expert Group, in autumn 2009 the NQF Project Group, which is spearheaded by representatives from the Federal Ministry for Education, the Arts and Culture and the Federal Ministry of Science and Research and includes representatives from the other federal ministries as well as the social partners (Austrian Chamber of Labor, Austrian Trade Union Federation, Austrian Federal Economic Chamber, Chamber of Agriculture, and Federation of Austrian Industries) (BMUKK and BMWF, 2008a: 24–25), drew a number of conclusions and came up with several recommendations for further developing the NQF. The NQF Project Group produced a document referred to as "NQR Projektgruppe, 2009" in the following.

The NQF Project Group made two central recommendations: Firstly, the NQF should not radically realign the Austrian skill formation system, but rather encourage the development of curricula in line with the principles of the NQF (NQR Projektgruppe, 2009: 5). Secondly, the NQF should not offer a *regulative frame*, but rather an *orienting frame* (NQR Projektgruppe, 2009: 8). Thus, the recommendations made by the NQR Project Group largely correspond to the above-mentioned positions of the Austrian Federal Economic Chamber, the Federation of Austrian Industries, and the Austrian Trade Union Federation, but not those of the Chamber of Labor.

In the next section, I look at another point of contention with regard to the NQF, namely the question whether it should be subdivided according to the existing segments in the Austrian education system.

The Split in the Austrian Qualification Framework

Interestingly, in their individual statements on the NQR consultation paper the Federal Economic Chamber (WKO, 2008), the Federation of Austrian Industries (IV, 2008), the Austrian Trade Union Federation (ÖGB, 2008), and the Chamber of Labor (AK, 2008) all speak out against the segmentation of the NQF in general education, VET, and HE. They argue that such segmentation would counteract the development of a comprehensive and integrative NQF based on learning outcomes. However, despite these cautionary positions it was decided that the NQF would be split at the levels 6–8, with an extra branch for non-HE qualifications (NQR Projektgruppe, 2009: 5) (see Table 18).[124]

Table 18: The split in the NQF at levels 6–8 in Austria

Bologna degrees*	**Tertiary qualifications outside HE ****
8 – PhD	8
7 – MA	7
6 – BA	6
5	
4	
3	
2	
1	

* Bologna degrees
** Non-HE qualifications

Source: NQF Projektgruppe (2009: 9); translation by LG

While the original idea of the development of a NQF was to promote a unified national framework and, as a result, permeability at all educational levels in Austria, the split between HE and tertiary non-HE programs at levels 6–8 reflects the institutional divide between VET and HE. In this sense, the Austrian NQR does not seem to increase permeability between VET and HE but rather to maintain the status quo:

> And with regard to permeability from vocational education and training to higher general education, the Austrian NQF has had no effect, but has instead strengthened and even underlined the status quo. (Interview AT6, translation LG).

The split in the NQF is striking if one remembers that several major stakeholders were not in favor of segmentation between VET and HE (see above). In my search for an answer to this puzzle, I found that the NQF consultation process has led to an increase in competition between organizational forms in

124 Interestingly, this split in the Austrian NQF ("Y-structure") was perceived as a negative example of differentiation by various political stakeholders in Germany and Denmark (Klenk, 2013: 184).

Austria's skill system. This is because the NQF, which is supposed to cover all formal qualifications in the education system, increases the interaction between organizations previously located in distinct organizational fields. In this new discursive arena, it appears that educational organizations in the HE system (universities of applied sciences and universities) have gained in negotiating power due to their capacity to act and form coalitions as relatively autonomous organizational actors. In the case of the universities of applied sciences, this is supported by the new public management principles along which they have been set up (see also Section 7.3.2).[125] Thus, maybe not surprisingly, out of the 276 statements received in response to the NQF consultation paper (BMUKK and BMWF, 2008b), the vast majority is put forward by universities of applied sciences and universities including their associations (144), as opposed to "only" 54 statements from VET stakeholders.[126]

This new more competitive environment has been a source of friction between BHSs and universities of applied sciences. As was mentioned earlier, the relationship between these two organizational forms is very particular. As we have seen, the expansion of the BHS has played an indirect role in contributing to the late establishment of the universities of applied sciences. On the labor market and in job advertisements, frequently no distinction is drawn between graduates from BHSs and universities of applied sciences. In the context of the NQF, some political actors, for example the Freedom Party of Austria, are calling for the title of "engineer" (*HTL-Ingenieur*) that graduates from the higher vocational school for technology and commerce can acquire to be placed at level 6 of the NQF, like Bachelor degrees (Der Standard, 2012).

From this perspective, it is not surprising that the universities of applied sciences to some extent regard the successful BHSs as competitors. As a consequence, in the NQF consultation process the universities of applied sciences are arguing against VET qualifications being equated with NQF levels 6–8. Whereas the VET stakeholders call for the BHS to be classified as belonging to levels 5 or 6 and, more generally, for NQF levels 5–8 to be open to VET qualifications (e.g., the *Meister*), the universities of applied sciences and universities tend to argue that neither purely vocational nor purely school-based qualifications should be assigned to the same NQF levels as academic degrees. More precisely, while the universities have proposed a split at levels 6–8, the universities of applied sciences have spoken out against assigning any kind of VET qualifications to levels 5–8 (FHR, 2008;

125 But universities have also gained more autonomy with the implementation of the Austrian University Law of 2002 (Interviews AT1, AT9).

126 Furthermore, there were 17 statements from actors in general education, 13 statements from actors in adult education, and 46 statements from others.

Österreichische Fachhochschul-Konferenz, 2008; Österreichische Universitätenkonferenz, 2008).

Universities of applied sciences and universities have tended to perceive the original NQF consultation paper critically as an attempt to enhance the status of VET relative to HE (NQR Expertengruppe, 2008a: 10). For example, the universities of applied sciences state that questions regarding the right to access specific occupations should not be mixed up with questions regarding the assignment of qualifications to the different NQF levels (NQR Expertengruppe, 2008b: 4). Whereas the VET stakeholders are in favor of recognizing partial qualifications within the NQF, HE stakeholders oppose this (NQR Expertengruppe, 2008a: 12). More generally, a key message from the HE sector is that the NQF should not lead to the automatic recognition of qualifications (or institutional permeability) between VET and HE (NQR Expertengruppe, 2008b: 14, 4).

Furthermore, the HE stakeholders refer to the Bologna process as a legitimation device for fending off undesirable demands from the VET sector. That is, HE stakeholders have argued that it is necessary to split the NQF at levels 6–8 to ensure the autonomy of the Bologna process and the related Dublin descriptors (NQR Expertengruppe, 2008a: 7). The Dublin descriptors, which were introduced prior to the EQF, define the three cycles of HE, namely the European Bachelor, Master, and PhD degrees (Joint Quality Initiative, 2004). Austrian HE stakeholders have argued that, with the Bologna process and the Dublin descriptors, HE already has its European reference standards and, hence, does not need not to be re-evaluated within the context of the EQF. In this context, one of the Austrian experts critically notes that "[w]e have two strands from level 6 onwards. That is, one for the Bologna architecture and one for all others" (Interview AT6, translation LG).

In summary, in the NQF consultation process the debate between the relative worth of the BHSs and the universities of applied sciences has been one key factor leading to the split of the NQF at levels 6–8. It seems that the universities of applied sciences represent a competitor to the BHSs and are working against the latter retaining a foothold at post-secondary level. While the social partners were playing to the rules of consensual politics that characterize small state corporatism, the HE institutes stepped out of line, as it were, and worked towards splitting the NQF at levels 6–8, bringing to the fore the historically evolved institutional divide between VET and HE.

7.4 Summary

The evolution of the hybrid BHS touches upon the combined effects of a variety of endogenous and exogenous factors, including the nationalization of

industries and their later privatization, the shift towards the service-based and knowledge economy in the context of globalized markets, the political responses to changes in educational choices of individuals seeking to optimize their career chances, and the influence of Europeanization. The latter point refers not only to the implementation process of the NQF presented above but also to shifts in the VET policy capacities of the social partners since Austria's accession to the EU in the 1990s, as well as to the facilitating role Europeanization had with regard to the establishment of the universities of applied sciences. Table 19 shows some of the decisive developments in the Austrian skill formation system over the past 50 years that have in some way been connected to the expansion of the BHS and its hybrid status at the nexus of dual apprenticeship, academic secondary education, and HE. It is worth noting that many of these developments are distinctively framed by Austrian small state corporatism and its specific interplay between the state, employer associations, and employee associations.

Table 19: Stylized overview of key historical developments related to hybridization between VET and HE in Austria

	General description	Pattern of institutional change	Institutional permeability between VET and HE
Phase I: Genesis of BHS			
1960s	Institutionalization of BHS in today's form (with roots in 18th and 19th century)	Layering in the form of BHS at nexus of VET and HE	Increase due to hybridity of BHS
Phase II: Further Evolution of BHS			
1970s–	Expansion of BHS	Continued layering	Increase due to hybridity of BHS
1970s–	Marginalization of dual apprenticeship	Layering in the form of expansion of BHS implies drift for dual apprenticeship	Decrease as apprenticeship "drifts away" from school-based organizational forms
Late 1990s–	Reforms to safeguard dual apprenticeship (e.g., vocational baccalaureate)	Incremental reforms, e.g., in the form of the vocational baccalaureate to avoid drift of dual apprenticeship	Increase due to creation of link between dual apprenticeship and HE
Impact of current Europeanization processes			
2009–	NQF split at levels 6–8	Conversion of EQF principle	Decrease (thus far) due to split and heightened competition

Source: Author's illustration

The expansion of the BHS since the 1970s has led to a drift for dual apprenticeship training. However, ultimately this challenge to dual apprenticeship training has led to a coordinated response by the social partners since the late 1990s. In fact, the social partners have strategically bolstered their involve-

ment in VET as a means to maintain some influence in regard to social policy. Innovations such as the vocational baccalaureate may be largely interpreted as layers grafted onto the dual apprenticeship training system. Another observation is that the EQF has been converted in Austria: While the EQF is intended to increase permeability, its national implementation in Austria has led to greater competition between, for instance, the BHSs and the universities of applied sciences. The split in the Austrian NQF at levels 6–8 also means that some of the favorable conditions on which the BHS relies to maintain its hybridity (e.g., its capacity to span the boundary between upper- and post-secondary education) are being negatively affected.

Several of the issues discussed here with regard to the impact of European educational policies on the DACH countries are picked up again in Chapter 9. However, before that, the next and final country chapter analyzes the Swiss case.

8. SWITZERLAND: The Development of the Swiss Hybrid Organizational Configuration by Strategic Design

First of all, this chapter offers a general overview of the Swiss education system (with a focus on the upper-secondary and post-secondary levels). Secondly, the Swiss configuration of hybridity at the nexus of VET and HE is described. Thirdly, I analyze the genesis and further evolution of this hybrid. Fourthly, the impact of the Bologna and Copenhagen processes is explored. The chapter concludes with a short summary and a synoptic table.

8.1 Introduction to Skill Formation in Switzerland

The Swiss Education System at Upper-Secondary Level[127]

Upper-secondary education in Switzerland is divided into general education and vocational education and training (VET) programs. General education is provided by baccalaureate schools (*gymniasale Maturitätsschulen*) and specialized middle schools (*Fachmittelschulen*). Baccalaureate schools usually take four years to complete and lead to a university entrance qualification (educa.ch, 2011). Specialized middle schools last three years and offer a Certificate of Specialized Middle Schools (*Fachmittelschulausweis*), which grants access to colleges of higher vocational education and training (*höhere Fachschulen*). After completing an optional additional year, students of specialized middle schools can attain the Specialized Baccalaureate (*Fachmatura*), which offers access to universities of applied sciences in their respective field of specialization (EDK, 2008; SDBB, 2012).

In the field of initial VET (IVET), there are programs of dual apprenticeships as well as school-based VET. Apprentices spend around three to four days a week in the firm (*Lehrbetrieb*), and the rest of the time in the vocational school as well as in inter-company vocational training (*überbetriebliche Ausbildung*). Unlike in Austria and Germany, inter-company courses are an integral part of apprenticeship training. Inter-company courses are organized by the respective professional associations (*Berufsverbände*) and help young people to acquire further practical competence (educa.ch, 2011). Therefore, Switzerland could even be classed as having a triple system (*trial-*

127 See, e.g., Erziehungsdirektion Kanton Bern (2010) for a chart showing the basic structure of the Swiss education system.

es System) (e.g., Wettstein and Gonon, 2009: 71). The share of full-time vocational schools is relatively low (see Table 20), although it is higher in the French and Italian speaking parts of Switzerland (educa.ch, 2011).

Basic VET can be further distinguished according to the three major types of qualifications. Firstly, there are two-year programs tailored for students that are considered to be primarily practically skilled and which lead to a Basic Federal Certificate (*eidgenössisches Berufsattest*). The second, and major organizational form in the dual system, namely the three- to four-year programs, prepare apprentices for a specific occupation and lead to a Federal Certificate (*eidgenössisches Führungszeugnis*), which also gives apprentices access to higher VET. Thirdly, there is the option of acquiring a vocational baccalaureate, which grants access to the universities of applied sciences (see Section 8.2 for a detailed description of the vocational baccalaureate). Table 20 shows participation rates in upper-secondary education in Switzerland.

Table 20: Overview of participation rates at upper-secondary level in Switzerland, 2000, 2005, and 2009

	2000	2005	2009
Total no. of students	307,121 (100%)	317,417 (100%)	343,297 (100%)
General education schools:	93,431 (30.4%)	97,513 (30.7%)	106,258 (31%)
Academic baccalaureate	66,888 (21.8%)	68,264 (21.5%)	73,547 (21.4%)
Vocational baccalaureate *(nachberuflich*[128]*)*	3,215 (1.1%)	5,288 (1.7%)	7,948 (2.3%)
Other general education schools[a]	23,328 (7.6%)	23,961 (7.6%)	24,763 (7.2%)
Initial VET:	213,690 (69.6%)	219,904 (69.3%)	237,039 (69%)
Dual apprenticeship[b]	185,600 (60.4%)	189,355 (59.7%)	210,307 (61.3%)
Full-time school	23,832 (7.8%)	25,678 (8.1%)	23,069 (6.7%)
Part-time school	4,258 (1.4%)	4,871 (1.5%)	3,663 (1.1%)

[a] Including specialized middle schools (*Fachmittelschule*, FMS)

[b] Including short certified VET programs for more practically skilled young people that usually take two years (*Attestlehre*) and prevocational training (*Vorlehre*)

Source: Bundesamt für Statistik (2012a); translation and calculation of % values by LG, individual values do not add up to 100% due to rounding

Table 20 shows that between 2000 and 2009 participation rates remained relatively stable in the different organizational forms. In 2009, the share of students in baccalaureate schools was only around 21%, whereas around 61% were in dual apprenticeships. Less than 8% of the students were enrolled in full-time vocational schools. It is important to note that the proportion of people in dual apprenticeships is higher in the German-speaking part of

128 *Nachberuflich* (postoccupational) refers to a vocational baccalaureate that is acquired subsequent to an IVET certificate.

Switzerland[129] than in the French-speaking part (Romandie), given that most full-time vocational schooling takes part in the latter (see below for more information on the French-speaking part of Switzerland).

The Swiss Education System at Post-Secondary Level

The main organizational forms within the HE sector (ISCED 5A) are the cantonal universities (in the following referred to as universities), the federal institutes of technology (which are regarded as "elite institutes" in Switzerland), and the Swiss universities of applied sciences. The Swiss higher VET sector (ISCED 5B) consists of colleges of higher vocational education and training as well as preparation programs for higher vocational education and training exams. This sector is huge in international comparison, is highly developed, and is an attractive pathway for those seeking to embark on a professional career (e.g., Interview CH2, CH18, see also Section 8.3.3).[130] Table 21 provides an overview of the Swiss organizational forms at post-secondary level, their location within the ISCED classification, and the qualifications they offer.

Table 21: Key organizational forms in post-secondary education in Switzerland, 2012

Organizational forms	ISCED level(s)*	Available qualifications**
Cantonal universities	5A; 6	Bachelor (3), Master (2); PhD/Doctorate (3)
Federal institutes of technology (*Eidgenössische Hochschulen, ETH*)	5A; 6	Bachelor (3), Master (2); PhD/Doctorate (3)
Universities of teacher education (*Pädagogische Hochschulen, PH*)	5A	Bachelor + teaching diploma (3), Master + teaching diploma (2)
Universities of applied sciences (*Fachhochschulen, FH*)	5A	Bachelor (3), Master (2)
Colleges of higher vocational education and training (*Höhere Fachschulen*)	5B	Federal Diploma (*eidgenössisches Diplom*) (2-3)
Preparation programs for higher VET exams (*Höhere Fach- und Berufsprüfungen*)	5B	Federal Diploma or Advanced Federal Certificate (*eidgenössischer Fachausweis*)

* See also definition of the ISCED levels in Appendix 11.4

** The figures in brackets refer to the number of years that students typically spend completing the course.

Source: Author's illustration based on, e.g., Bundesamt für Statistik (2006)

129 Correspondingly, the vocational baccalaureate, which is mainly targeted at apprentices, tends to be more common in the German-speaking part of Switzerland (see Gonon, 2013: 125).

130 Appendix 11.1 contains a detailed list of the expert interviews carried out in Switzerland.

Tables 22 and 23 present participations rates for HE and higher VET, respectively. In the HE system (ISCED 5A) around 65% of the students are enrolled in universities and around 35% in universities of applied sciences. In higher VET, the major pathways are: the preparation programs for the Federal Professional Education and Training Diploma or the Advanced Federal Professional Education and Training Diploma (29%), the colleges of higher vocational education and training (39%), and the preparation programs for a Professional Education and Training College Degree (9%).

Table 22: Participation in HE, Switzerland, 2009/10

	Total	%
Universities	126,940	64.6
Universities of applied sciences	69,676	35.4
Total	196,616	100

Source: Bundesamt für Statistik (2013); translation and calculation of % values by LG

Table 23: Participation in higher VET in Switzerland, 2009

	Total	%
Colleges of higher vocational education and training	20,879	39.1
Preparation for a Professional Education and Training College Degree (preparation for *höhere Fachberufe*)	4,738	8.9
Preparation for a Federal Professional Education and Training Diploma or Advanced Federal Professional Education and Training Diploma (preparation for *Berufsprüfungen*)	15,494	29
Others	12,346	23.1
Students	53,457	100

Source: Adapted from Bundesamt für Statistik (2012b); translation and calculation of % values by LG, individual values do not add up to 100% due to rounding

Governance and Key Stakeholders in the Swiss Education System

The Swiss political system is one of the most complicated of the Western capitalist systems (see Kriesi and Trechsel, 2008). One prominent example of this complexity is the Swiss system of direct democracy in the form of frequent referenda (*Volksabstimmungen*), which are used by a variety of actors to promote or block policies (Kriesi and Trechsel, 2008: 110–111). The Swiss democratic system is characterized by its consensual operation, based on specific institutional elements such as consociationalism (*Konkordanzregierung*) and the principle of collegiality (*Kollegialitätsprinzip*) (see Linder, 2003). Broadly speaking, the influence of the federation is limited while private interest organizations play an important role in self-regulating socio-economic institutions (Mach and Trampusch, 2011). The Swiss political parties have a rather weak position in the process of political decision-

making. A major reason for this is that the Swiss private interest organizations are included in the consultation procedure prior to parliamentary decision-making to avoid the possibility of a public referendum at a later stage (Ladner, 2006: 397; Neidhart, 1986).

The major political parties – all of which are included in the Swiss government (*Bundesrat*) due to the Swiss consociational system – are the left-leaning Social Democratic Party of Switzerland (*Sozialdemokratische Partei der Schweiz*, SP) and the following center-right parties: the Christian Democratic People's Party (*Christlichdemokratisch Volkspartei der Schweiz*, CVP), the FDP.The Liberals (*FDP.Die Liberalen*), the agrarian Swiss People's Party (*Schweizerische Volkspartei*, SVP), and the Conservative Democratic Party of Switzerland (*Bürgerlich-Demokratische Partei Schweiz*, BDP) (the latter being a moderate splinter group of the SVP) (see, e.g., Hug and Schulz, 2007: 308). All major political parties support the dual apprenticeship training system and aim to maintain its attractiveness (see, e.g., Sozialdemokratische Partei der Schweiz, 2001; Christlichdemokratische Volkspartei, 2011; FDP.Die Liberalen, 2011; Schweizer Volkspartei, 2012).

Katzenstein (1984) characterized Switzerland as belonging to the liberal variant of democratic corporatism in which the business community has enjoyed more power than the labor movement. Nevertheless, small state corporatism implies that weaker parties are incorporated into the political process (Katzenstein, 1984; for a present-day discussion of Katzenstein's account of corporatism in Switzerland, see Mach, 2006). Both the interest associations of the employers and of the employees are usually involved in the law making process at the drafting stage (Interview CH13). The two key business interest associations in those economic sectors that are more sheltered from developments in the international economy are the Swiss Trade Association (*Schweizerischer Gewerberverband*, SGV), for small businesses and tradespeople, and the Swiss Farmers' Association (*Schweizerischer Bauernverband*, SBV). There are two business interest associations in the more internationally exposed sectors of the economy: the Swiss Employers' Association (*Schweizerischer Arbeitgeberverband*, SAV) and "economiesuisse" (see Kriesi and Trechsel, 2008: 100–104). The two most important trade unions in Switzerland are the Swiss Federation of Trade Unions (*Schweizerischer Gewerkschaftsbund*, SGB) and Travail.Suisse. Both of these employee organizations, which often compete with each other (Interview CH13), organize a number of smaller sectoral unions and employee associations. However, the influence of these trade unions on the VET system is rather limited as the collective bargaining agreements are not directly linked to VET qualifications as is (partly) the case in Germany or in Austria (Interview CH9; Tritscher-Archan, 2009a: 42).

Generally speaking, the 26 Swiss cantons play an important role in the Swiss education system (Interview CH2). For example, each of the cantons

has its own department for VET and the Conference of the Swiss Cantonal Vocational Training Departments (SBBK) provides a political platform for inter-cantonal coordination (Interview CH11, CH14). Institutional change in the Swiss VET sector is sometimes linked to the presence of "laboratory federalism," as the strong cantonal influence in the field of VET permits a variety of institutional solutions to be tested as well as their diffusion through intermediary organizations such as the SBBK (see Gonon, 2010: 260–262). Marc-Antoine Jullien, a Frenchman and one of the founders of comparative educational science, in the early 19th century pointed to the institutional plurality (languages, cultures, religions, political organization) the Swiss cantons represent and to the benefits that a comparison of the different educational practices within the Swiss microcosm would offer (Jullien, 1817; see also Gonon, 1998: 152–154; Gautherin, 1993).

At federal level, the body in charge of VET is the Federal Office for Professional Education and Technology (BBT).[131] However, responsibility for initial and higher VET is shared between the federation (key task: strategic development), the "professional organizations from the world of work" (*Organisationen der Arbeitswelt*, OdA) (key task: curricula development and provision of apprenticeship places), and the cantons (key task: implementation and control) (BBT, 2010: 6–7; SKBF, 2010; CRUS, 2011b; educa.ch, 2011, several pages). *Organisationen der Arbeitswelt* (OdA) is an umbrella term for professional associations, social partners, and a number of other organizations involved in VET (Berufsbildungplus.ch, 2012). The OdA are further divided into the VET network of the employees (*Netzwerk Berufsbildung der Arbeitnehmenden*) (see Bildungsgewerkschaften, 2012) and the VET network of the employees (*Arbeitgeber-Netzwerk für Berufsbildung*) (see SQUF, 2012).

General education schools are primarily governed by the cantons. However, there are various initiatives for coordinating educational policies at the inter-cantonal level (see, e.g., Fries, Hild, and Rosenmund, 2008 on the 2007 HarmoS-Project "*Interkantonale Vereinbarung über die Harmonisierung der obligatorischen Schule*"). The 12 universities and 14 universities of teacher education are primarily regulated at the cantonal level, while the two federal institutes of technology fall within the regulative authority of the federation. To the extent that the federation is involved, the universities and the federal

131 In January 2013 the Federal Office for Professional Education and Technology (BBT) and the State Secretariat for Education and Research (SBF) were merged to create the State Secretariat for Education, Research and Innovation (SBFI). The SBFI belongs to the Federal Department for Economics, Education and Research (previously called the Federal Department for Economic Affairs). Given that the empirical material, including the interview data, was collected in the period before this restructuring, the Federal Office for Professional Education and Technology (BBT) and the State Secretariat for Education and Research (SBF) will still be referred to as the responsible state agencies for VET and HE respectively. Please refer to the passage on Swiss hybrid governance in Section 8.2 for details.

institutes of technology fall within the authority of the State Secretariat for Education and Research (SBF), which is located within the Federal Department of Home Affairs (educa.ch, 2011, several pages).[132] The federation has more influence on universities of applied sciences than traditional universities (with the exception of the federal institutes of technology) (Interview CH8), as the latter (seven public and two private universities of applied sciences) are regulated by their own federal law (see SBF, 2012). At the same time, the universities of applied sciences are objects of prestige for those cantons that do not have a university (Interview CH15) and an example of increased cooperation between the cantons and the federation (see Huber, 2006: 368). Interestingly, the state agency responsible for the universities of applied sciences (officially ISCED 5A) is the Federal Office for Professional Education and Technology, which is located within the Federal Department of Economic Affairs (EDV) (see, e.g., BV, 1995: Art. 5). The Federal Office for Professional Education and Technology and the State Secretariat for Education and Research clearly have different foci with regard to education (Interview CH15). The former is congruent with the institutional logic in the field of VET and the latter with that of the field of HE. This division of responsibility between the Federal Office for Professional Education and Technology and the State Secretariat for Education and Research tends to deepen the divide between VET and HE due to the lack of coordination and communication between these two state agencies (Interview CH13, CH8).

The final part in this introduction to the Swiss skill formation system locates Switzerland between Germany and France, which helps to understand the prevalence of two major cultural regions within Switzerland.

Locating Switzerland between Germany and France

The most densely populated area of Switzerland is located between the Alps (to the south and east), Germany (to the north), and France (to the west). This geographical location is reflected in two major cultural regions, namely the German-speaking part of Switzerland (*Deutschschweiz*) and the smaller French-speaking part of Switzerland (Romandie/*Westschweiz*). The German-speaking part of Switzerland and the Romandie can each be said to form a "bounded community" (Geser, 2003: 2) – which also applies to the specificities of their educational institutions. The proximity of these regions to Germany and France had a significant impact on the development of the Swiss education system as far back as the 19th century and earlier (Interview CH9). In the German-speaking part of Switzerland, educational institutions are historically oriented to the German education system (e.g., to the dual apprenticeship system in Baden-Württemberg), while in the Romandie they are more oriented to France (e.g., the French school-based VET system in the

132 See previous footnote and Section 8.2 on the recent merger of the SBF and the BBT.

form of the *Ecoles de Métiers*) (Interview CH8, CH2) (see also Gonon, 2012: 201–202). There is also a small Italian-speaking region (mainly the canton of Ticino), but none of the experts mentioned that Italy had a major influence on the Swiss education system (apart from its influence on the small Italian-speaking region itself). It should be noted that the German-speaking part of Switzerland is by far the largest region in Switzerland in terms of indicators such as geographical size, population, and share of GDP. This is also reflected in the distribution of the main languages spoken by the Swiss population (*Wohnbevölkerung nach Hauptsprache*): German: 63.7%, French 20.4%, Italian 6.5%, Rhaeto-Romanic: 0.5%, and non-official languages: 9.0% (Bundesamt für Statistik, 2005: 7, census 2000). In Switzerland, Germany is sometimes portrayed as the "older sibling" (Interview CH2). In the sense that the German-speaking part of Switzerland is far bigger than the Romandie, Germany has been more influential than France in providing a platform for ideals and norms for the educations system (Interview CH9).[133] The comparative literature often only refers to the German-speaking part of Switzerland when referring to Switzerland. It is also beyond the scope of this book to set out in detail all the differences between the German-speaking and the French-speaking parts of Switzerland. The primary goal here is to provide a picture of Switzerland as whole. While this chapter focuses slightly more on the German-speaking part, it includes references to the French-speaking part whenever the Romandie played a significant role in shaping the Swiss skill formation system. Thus, the following analysis will show that the Swiss hybrid organizational configuration has been shaped by influences from both cultural regions.

8.2 Description of the Swiss Hybrid Organizational Configuration

In Switzerland, the organizational configuration that meets the three criteria for hybridity (see Section 3.3.4) are the Swiss universities of applied sciences that build on dual apprenticeship training and a vocational baccalaureate (FHIVET).[134] The creation of this hybrid configuration is seen by many as the major educational reform in the last 20 years in Switzerland (Interview CH3, CH11, CH2, CH8) alongside the Bologna reform (Interview CH6). This new

133 Historically, the proximity to Germany has, e.g., supported the growth of the Swiss dual apprenticeship training system.

134 As was mentioned earlier, the abbreviation FHIVET refers to the Swiss organizational configuration of universities of applied sciences (*Fachhochschulen*, FH) that directly build on initial vocational education and training (IVET).

configuration helped to overcome a long period of "reform logjam" (Criblez, 2008: 762) and (as we will see below) served to upgrade the status of VET in general (Interview CH11). Readers will note that this chapter – privileged by its position as the third country-specific chapter – already draws more on a comparison with the two other country cases (Germany and Austria). Thus, I will show that the Swiss universities of applied sciences distinguish themselves from their counterparts in Germany and Austria as they are designed as part of a holistic VET pathway that, ideally, leads from dual apprenticeship training to an academic Bachelor degree at ISCED 5A level. In this sense, it is not too surprising that the Swiss universities of applied sciences are explicitly included in the OECD's national VET report on Switzerland (Hoeckel, Field, and Grubb, 2009), but that universities of applied sciences are not included in the VET reports on Germany (Hoeckel and Schwartz, 2010) and on Austria (Hoeckel, 2010).

Hybrid Learning Process

The Swiss universities of applied sciences form the core of the Swiss hybrid organizational configuration (FHIVET). The Swiss universities of applied sciences are legally obliged to be practice oriented (Interview CH15, CH6). Their profile is designed to be of high practical relevance (*Praxis- und Anwendungsbezug*) both at the Bachelor level and at the Master level (see KFH, 2006: 6). Thus, the vocational principle remains largely in place at these institutions (Interview CH7). In the case of the Swiss universities of applied sciences, the logic of VET is extended into the HE sector. For example, one expert suggests that the guiding educational ideal at the Swiss universities of applied sciences is the *Meister* (Master craftsman) principle: "I think it is like this: the *Meister* principle is being transported into the schooling context – the *Meister* principle at the universities of applied sciences" (Interview CH4, translation LG). The Swiss universities of applied sciences are closely connected to the economy and the higher vocations and are intended to train individuals for a specific occupation while also providing them with a scientific foundation (Interview CH1; Weber, Tremel, and Balthasar, 2010: 698; BV, 1995: Art. 3 "*Aufgaben*"). However, it is not the scientific discipline but the education and training for a higher vocation that represents the dominant mode of reproduction at the Swiss universities of applied sciences (see Tremel and Weber, 2010: 699).

The Swiss *Organisationen der Arbeitswelt* (OdA) often perceive the proximity between the Swiss education system and the economy as one of this system's major strengths (Interview CH12). Within the field of HE, this proximity is exemplified by the universities of applied sciences. The programs at the universities of applied sciences are well recognized on the labor market (Interview CH3) and, correspondingly, the labor market chances of their graduates are usually considered to be very good (Interview CH6).

Especially in the technical programs, the return on education (*Bildungsrendite*) of graduates from universities of applied sciences is comparable to that of graduates from universities (Interview CH3). Backes-Gellner and Tuor (2010: 44) even argue that the Swiss labor market rewards people with mixed educational pathways (i.e., those who switch between VET and HE programs) with 10–30% higher salaries.

The strong occupational orientation of the Swiss universities of applied sciences is also reflected in their relationship to the traditional universities. On the one hand, the traditional universities are a role model for the Swiss universities of applied sciences. On the other hand, Swiss universities of applied sciences are legitimized through their orientation to the VET sector (Weber, Balthasar, and Tremel, 2010: 224). For instance, research and teaching at the Swiss universities of applied sciences are usually not integrated (Interview CH4).[135] Furthermore, students are often educated by practitioners. That is, academic staff at Swiss universities of applied sciences are more practically oriented than their peers at traditional universities (Interview CH4).

In summary, the Swiss universities of applied sciences are designed to offer a learning process that leads to an academic degree but is firmly rooted in the vocational principle, which originally derives from dual apprenticeship training at upper-secondary level (Hybridity Criterion I). The next section describes the typical pathway and the certificates related to the Swiss FHIVET configuration and shortly contrasts it to the universities of applied sciences in Austria and Germany.

Typical Pathway and Certification

Swiss universities of applied sciences are directly linked to dual apprenticeship training. Typically, a graduate from a Swiss university of applied sciences holds an initial VET certificate and a vocational baccalaureate (upper-secondary level) as well as an academic Bachelor degree (HE level) (Hybridity Criterion II). The Swiss universities of applied sciences' specific link to the field of VET will be explored in the following. To that end, the key linking elements of (1.) "vocational baccalaureate" and (2.) *Passerellen* (i.e., institutionalized options bridging the VET field and the HE field) are introduced and their specific Swiss character is illustrated through short comparisons with the Austrian and German cases.

The Swiss vocational baccalaureate was established in 1993 and is designed to build a bridge between dual apprenticeship training and universities of applied sciences. As a result, a distinct vocational pathway was created at the level of tertiary education (Gonon, 1994: 399, 401). The vocational

135 Moreover, the Swiss universities of applied sciences (like their counterparts in Germany and Austria) do not have the right to award PhDs (BBT, 2009a: 9).

baccalaureate basically provides additional general education, which, however, is not genuinely integrated into the practical part of VET training (Interview CH17). The mainly public vocational baccalaureate schools (*Berufsmaturitätschulen*) do not charge tuition fees, although there are some private providers that do (MBA, 2010: 3). The preparation required for the vocational baccalaureate examination can be accomplished in three ways: (a) by attending additional classes in parallel to the basic vocational training, (b) through one year of full-time schooling after gaining a Federal Certificate (i.e., a standard VET certificate), and (c) through individual preparation (independently of schooling) after being awarded a Federal Certificate (BBT, 2010).

The vocational baccalaureate is regarded as the ideal path ("*Königsweg*") into a Swiss university of applied sciences (e.g., Arnet, 1992; Backes-Gellner and Tuor, 2010). According to federal law, "[t]he unconditional admission (i.e., without entrance exam) to studies at the university of applied sciences requires (a) a vocational baccalaureate in combination with vocational training in an occupation that is related to the subject of study; or (b) an academic baccalaureate as well as practical work experience of at least one year that provides practical and theoretical expertise in an occupation close to the subject of study" (BV, 1995: Art. 5 "*Zulassung*", translation LG). This law shows that the Swiss universities of applied sciences were deliberately designed for vocationally trained people (Interview CH18). In another passage, the federal law also stipulates that Swiss universities of applied sciences have to build on the system of VET: "Universities of applied sciences are educational institutes that require a higher education entrance certificate and that principally build on a vocational education and training program" (BV, 1995: Art. 2 "*Stellung*", translation LG). This also implies that the curricula at universities of applied sciences build on a dual apprenticeship experience (Interview CH13). Consequently, in the Swiss case recognition of prior IVET learning as an element in programs at universities of applied sciences is not a major topic, as Swiss universities of applied sciences are designed to directly build on dual apprenticeship training (Interview CH2).

The deliberate creation of an educational pathway of which the first stage is IVET and the second the academic level (Interview CH6) is unique in the group of DACH countries. In Switzerland the vocational baccalaureate (1993) was created before the universities of applied sciences (1995) in order to ensure a smooth development of this organizational configuration from the beginning (Interview CH3). Furthermore, the vocational baccalaureate is designed to provide direct access to universities of applied sciences, not to universities in general. In contrast to Austria and Germany, Swiss universities of applied sciences were from the beginning understood to be an enhancement of the system of VET: "Of course, in contrast to Germany, in Switzerland the universities of applied sciences were naturally clearly understood to

be an extension of vocational education and training" (Interview CH5, translation LG). Correspondingly, at universities of applied sciences (excluding universities of teacher education) in Switzerland, of those students with a Swiss entrance certificate, 55% hold a vocational baccalaureate, 25% hold an academic baccalaureate, and 20% some other Swiss certificate (Table 24).[136]

Table 24: Educational background of domestic students at universities of applied sciences in Switzerland with Swiss matriculation certificates, 2010/11

Type of study entitlement	%
Vocational baccalaureate	55
Academic baccalaureate	25
Other Swiss certificate	20

Source: Bundesamt für Statistik (2011b: 6, data for 2010/11), translation by LG

In contrast, in Austria the vocational baccalaureate (1999) was created some years after the universities of applied sciences (1994). Moreover, in Austria the vocational baccalaureate offers access to universities of applied sciences and universities alike. In Austria only 6% of the students at universities of applied sciences hold a vocational baccalaureate, while the proportion of students at a university of applied sciences with an academic baccalaureate background is much higher, namely 86% (academic secondary school: 34%, full-time school-based BHS: 52%) (see Table 25). A major reason for the lack of mobility from dual apprenticeship, as well as BMS, to universities of applied sciences in Austria is the gap in the normative goals and curricular requirements connected to each of these organizational forms (rather than the

Table 25: Educational background of domestic students at universities of applied sciences in Austria, winter semester 2008/09

Type of study entitlement	%
Academic baccalaureate, preparation at academic secondary school (*AHS-Matura*)	34
Academic baccalaureate, preparation at a BHS (*BHS-Matura*)	52
*Studienberechtigungsprüfung**	1
Vocational baccalaureate	6
Other	7
Total	100

* While the Austrian vocational baccalaureate offers general access to HE, the *Studienberechtigungsprüfung* (higher education entrance qualification examination) only offers limited access, namely to the subject area the student specializes in (BMUKK, 2012h).

Source: Adapted from Unger, Zaussinger, Angel et. al. (2010a: 77), translation by LG

136 See also Kiener, Wittmann and Bürgin (2010) for a case study of the educational background of new students at the Zurich University of Applied Sciences.

lack of regulations in place to formally allow such mobility) (see Lassnigg, Unger, Pechar et al., 2003: 89).

In Germany there is no vocational baccalaureate as a second (optional) standard certificate in VET (*zweiter (fakultativer) Regelabschluss*) (Baethge, 2008b: 30). While there is also the option of acquiring some form of higher education entrance certificate (in parallel or subsequently to) VET programs, this option is not broadly institutionalized as is the case with the vocational baccalaureate in Switzerland and Austria (see also Section 6.1).[137] The provision and development of such options differs significantly across the German *Länder* (see, e.g., Waldhausen and Werner, 2005: 41). In the Federal Institute for Vocational Education and Training's database, 185 such models are registered but only a total of 8477 enrolled students (BIBB, 2011c: 10). While a few programs were introduced as early as the 1970s, most of them were created from the late 1990s onwards (Waldhausen and Werner, 2005: 42 on the German case).[138] However, these options are not directly comparable to the nationally standardized provision of a vocational baccalaureate in Switzerland and Austria. This is also reflected in the data presented in Table 26, which shows the educational background of students at universities of applied sciences in Germany. At universities of applied sciences in Germany, 55.8% of the students gained their baccalaureate from an academic secondary school (*Gymnasium*), a specialized academic upper-secondary school (*Fachgymnasium*), or an integrated comprehensive school (*Gesamtschule*). The next biggest proportion of students at universities of applied sciences (22.5%) attained their entrance qualification at a vocationally-oriented secondary school (*Fachoberschule*). However, the *Fachoberschule* is not genuinely linked to initial VET training like in Switzerland and its major entrance requirement is an intermediate school-leaving certificate (*Realschulabschluss*).

137 In Germany graduates from IVET can attain a higher education entrance certificate after they have received their VET certificate through part-time studies at a night school (*Abendgymnasien*) (KMK, 2010b) or full-time at a *Kolleg* (KMK, 2010c).

138 An example of an innovative model is called *Duale Berufsausbildung und Fachhochschulreife* (DBFH). It is offered in several places in Bavaria and leads to both an IVET qualification and a university of applied sciences entrance qualification through cooperation between a vocational school (*Berufsschule*), a vocationally-oriented secondary school (*Fachoberschule*), and a firm (usually large firms like BMW, Bosch, or Deutsche Telekom) (see Staatliche Schulberatung in Bayern, 2012). Other pilot projects in this field are *Berufsschule Plus* (also in Bavaria) and *Duale Berufsausbildung mit Abitur Sachsen* (DuBAS) in Saxony.

Table 26: Educational background of students at universities of applied sciences in Germany, 2008

Type of study entitlement	%
Academic upper-secondary school (*Gymnasium*), specialized academic upper-secondary school (*Fachgymnasium*), or integrated comprehensive school (*Gesamtschule*)	55.8
(Vocational) specialized school ((*Berufs-)Fachschule*) or specialized academy (*Fachakademie)*	11.7
Vocationally-oriented secondary school (*Fachoberschule*)	22.5
Second-chance education (*Zweiter Bildungsweg*)*: evening academic secondary school (*Abendgymnasium*), college (*Kolleg*)	5.1
Third-chance education (*Dritter Bildungsweg*)*	1.8
Foreign higher education entrance qualification	0.8
Other qualifications	2.2

* See Section 3.3.4 for a definition of second- and third-chance education

Source: Autorengruppe Bildungsberichterstattung (2010: 291); translation by LG

The data presented in Tables 24–26 show that Switzerland is the only DACH country in which the educational background of the majority of students at universities of applied sciences builds on dual apprenticeship training and, thus, on extended in-firm training phases. Therefore, according to Hybridity Criterion II, only in the special case of Switzerland does the vocational baccalaureate become part of a genuinely hybrid organizational configuration that spans the boundary between upper-secondary education and post-secondary education.

Another specific feature of the Swiss universities of applied sciences is the existence of *Passerellen*. There are two types of *Passerellen*: (A) the *Passerelle* "vocational baccalaureate – university" requires that students who hold a vocational baccalaureate and want to enter a university or federal institute of technology pass an extra examination (for which there are specific preparatory courses of various lengths); (B) the *Passerelle* "academic baccalaureate – university of applied sciences" entails that students with an academic baccalaureate who want to attend a university of applied sciences are being required to have one year of practical experience in the desired field of study (to which end some universities of applied sciences offer structured internship programs) (e.g., Erziehungsdirektion Kanton Bern, 2012). Both of these *Passerellen* are demanding and represent bridges whose passage requires significant extra work:

> There are transitions, there are bridges between the two systems, but there are no automatic conveyer belts. You can't simply stand there and then you'll get beamed over and feel comfortable. Some effort has to be put into it – on both sides. (Interview CH1, translation LG)

For example (A) usually involves one year of full-time schooling plus an examination (Interview CH8). This creates a high entry barrier. Therefore,

some experts have criticized the fact that the vocational baccalaureate is still subordinated to the academic baccalaureate (Interview CH2). In the case of (B), the practical year is usually followed by an aptitude test (Interview CH17). The specific way in which the *Passerelle* "academic baccalaureate – university of applied sciences" is handled depends largely on the receiving institute and differs between these (Interview CH16).

The creation of the *Passerelle* means that at the formal level there is increased permeability between the two distinct VET and HE sectors (Interview CH4). However, the number of people who take these *Passerellen* is (still) rather low: Around 3.5% of those who have acquired a vocational baccalaureate and want to enter HE embark on the *Passerelle* "vocational baccalaureate – university" with the aim of getting into university; approximately 7.2% of those who have an academic baccalaureate (*gymniasale Maturität*) and want to enter HE embark on the *Passerelle* "academic baccalaureate – university of applied sciences" (*Berufspraktikum*/*Stage professionelle*) to access a university of applied sciences (Bundesamt für Statistik, 2011a: 9, cohort 2002). However, when interpreting these low percentage values it should be noted that the *Passerellen* were introduced later than the universities of applied sciences (Interview CH16). For example, the *Passerelle* "vocational baccalaureate – university" has been available only since 2005 (Grob, Leu, and Kirchhoff, 2007: 1). Beyond that, the *Passerellen* have a strong symbolic meaning, as they serve as tools for marketing both the vocational baccalaureate and the academic baccalaureate (Interview CH2). One indicator for this is that the Federal Office for Professional Education and Technology actively pushes for the *Passerelle* "academic baccalaureate – university of applied sciences" (Interview CH18). The Federal Office for Professional Education and Training and other VET stakeholders regard this *Passerelle* as a way to ensure that the vocational baccalaureate remains the key pathway into the universities of applied sciences.

No national regulation comparable to the *Passerellen* in Switzerland was found in Germany and Austria. In Germany there is no vocational baccalaureate as a standard certificate in VET and in Austria the vocational baccalaureate (as well as *Lehre mit Matura*) provides access to both universities and universities of applied sciences. In Germany, universities of applied sciences programs can require a pre-study internship (*Vorpraktikum*) (Infothek, 2012). However, these internships often last for only a few weeks. More generally, the specific mission of the German universities of applied sciences as opposed to that of traditional universities has not been sufficiently clarified by the responsible policy-makers (see Krüger, 1996: 221). This is one of the major reasons why the German universities of applied sciences have become increasingly similar to traditional universities (see, e.g., Altvater, 2013). In Austria, universities of applied sciences may also demand practical experience for specific programs (Bundeskanzleramt, 2012b: §4 (7)). Yet, the

general academic baccalaureate without work experience is often sufficient to be granted direct access. In fact, the Austrian norm with regard to access to universities of applied sciences is that there should be equal opportunities irrespective of the type of study entitlement someone fulfills. As a result, at Austrian universities of applied sciences applicants are divided into groups that correspond to their study entitlement (e.g., vocational baccalaureate and academic baccalaureate). Subsequently, the best performers in each group are admitted proportionally to the relative group sizes (see Luomi-Messerer, 2012 for details).

However, in the Swiss case the vocational baccalaureate in combination with the *Passerellen* represent structural elements that externally define the Swiss universities of applied sciences as rooted in the organizational field of VET.[139] Thus, the vocational baccalaureate is the ideal path into universities of applied sciences and the universities of applied sciences are firmly based on the dual apprenticeship system, both normatively and in terms of actual participation rates (Hybridity Criterion II).

Swiss Hybrid Governance

The Federal Commission for the Vocational Baccalaureate (*Eidgenössische Berufmaturitätskommission*, EBMK) plays a key role in steering and implementing the vocational baccalaureate. The EBMK is made up of representatives from the vocational schools, universities of applied sciences, institutes of teacher education, the professional organizations from the world of work (*Organisationen der Arbeitswelt*, OdA), the cantons, and the federation. The EBMK has contributed significantly to the quality of the curricula leading to the vocational baccalaureate (Gonon, 2013: 133–134). Governance of the vocational baccalaureate is hybrid in the sense that both members from VET and HE take part in the EMBK.

Interestingly, the governance structure of the Swiss universities of applied sciences is also similar to that of the rest of the VET sector, primarily as the professional organizations from the world of work (OdA) are strongly involved in their steering (Interview CH4). For example, the OdA are strongly interwoven with the development of the universities of applied sciences through their active involvement in the federal commission for universities of applied sciences (*Eidgenössische Fachhochschulkommission*) (Interview CH12, CH6). As previously mentioned, the universities of applied sciences are covered by their own federal law (SBF, 2012). Until the end of December 2012 the universities of applied sciences were the responsibility of the Feder-

139 Here my definition relies on external features of the Swiss universities of applied sciences. According to Aldrich and Ruef (2006: 114–115) a major distinction between different types of definitions of organizational forms is "whether the definition relies on internal organizational attributes or processes external to the boundaries of organizations."

al Office for Professional Education and Technology,[140] which was part of the Federal Department of Economic Affairs (EDV). As a result, the universities of applied sciences are closer to the private sector and the world of work than traditional universities (Interview DE12). This hints at the hybrid governance of the universities of applied sciences sector. [141] In January 2013 the State Secretariat for Education, Research and Innovation (*Staatssekretariat für Bildung, Forschung und Innovation*, SBFI) was founded following a merger between the Federal Office for Professional Education and Technology and the State Secretariat for Education and Research (e.g., Neue Zürcher Zeitung Online, 2012). To that end, the State Secretariat for Education and Research was integrated into the Federal Department for Economic Affairs (EDV), which has been renamed into Federal Department for Economics, Education and Research (*Eidgenössisches Departement für Wirtschaft, Bildung und Forschung*) (EDV, 2012). This decision was taken after years of debate, in which each of the two sides (VET and HE stakeholders) wanted to ensure that the new State Secretariat would not curtail their interests. However, the location of the new State Secretariat for Education, Research and Innovation (SBFI) within the department for economics indicates that the governance of the universities of applied sciences is likely to remain oriented towards VET. However, given that I collected the empirical material, including the interview data, in the period before the SBFI was created in January 2013, in this book I will still refer to the Federal Office for Professional Education and Technology and the State Secretariat for Education and Research as the responsible state agencies.

In conclusion, it can be said that the governance of the Swiss universities of applied sciences entails elements of traditional processes in both VET and HE (Hybridity Criterion III). In addition, the organizational configuration of university of applied sciences, dual apprenticeship and vocational baccalaureate (FHIVET) combines learning process from both VET and HE (Hybridity Criterion I) and links upper-secondary VET with post-secondary HE (Hybridity Criterion II).

140 The Federal Office for Professional Education and Technology was founded in 1998.

141 In Austria, the ministry responsible for both universities and universities of applied sciences is the Federal Ministry for Science and Research (BMWF, 2012). In Germany, the Federal Ministry for Education and Research is in charge of both universities and universities of applied sciences (in as far as the federal level is involved in the *Länder* governance of HE).

8.3 Process Analysis of Hybridization

Before this section addresses the genesis and evolution of the Swiss FHIVET configuration, some essential background information on the historical legacy of the institutional divide between VET and HE in Switzerland is provided. This short introductory part focuses on accounting for the strong emphasis on VET (especially dual apprenticeship training) in Switzerland.

The Historical Legacy of the Institutional Divide between VET and HE

In the Swiss case, as in Germany and Austria, the two fields of general academic education and VET evolved separately with different goals. VET programs are oriented directly to specific occupations. While the vocational principle also provides orientation in the field of general academic education, this vocational orientation is typically given indirectly via science (Gonon, 1994: 392). One of the key factors for explaining why in the past VET did not develop in a different direction (e.g., towards more general education) is the strong support for dual apprenticeship training based on a historically evolved cultural consensus between the most influential stakeholders in the Swiss education system and a "strong integrative tendency on the side of the private sector" (Gonon, 1994: 393, translation LG).[142] The dominant position of dual apprenticeship training, which offers an important clue to contemporary developments in the Swiss education system, is supported in at least three ways: (a) a number of structural features serve as an incentive for the participation of students and employers, (b) political conservatism prioritizes the dual apprenticeship system, and (c) the dual apprenticeship system enjoys a high reputation amongst the Swiss.

(a) The sustainability of the Swiss dual apprenticeship system is facilitated by innovative measures such as the third place of learning (*Dritter Lernort*) and proven tools to evaluate and steer the training of apprentices within the firm (Interview CH2). Furthermore, the dual apprenticeship system is organized so that it is financially self-supporting for the involved firms (Hoeckel, Field, and Grubb, 2009: 5). Hiring an apprentice usually already pays off for the firm during the apprenticeship (Interview CH13; see Schweri, Mühlemann, Pescio et al., 2003 for details).
(b) The broadly conservative political setting in Switzerland favors the persistence of dual apprenticeship training (e.g., as political conservatism in Switzerland prefers "cheap" dual apprenticeship training to "expensive" full-time vocational schooling) (Interview CH9). Moreover, trade unions play a rather minor role in the Swiss dual apprenticeship training

142 See Wettstein (2005) and Berner, Gonon, and Ritter (2011) for a detailed description of the historical origins of the Swiss VET system.

system compared to that of the employers. This also helps to explain the weak presence of full-time school-based programs (Interview CH2). Beyond that, major actors such as the Federal Office for Professional Education and Technology are afraid that a relative expansion of the full-time school-based sector would decrease firms' willingness to participate in the dual apprenticeship system and thus divert the most skilled young people away from the dual training system (Interview CH9).

(c) Article 61a of the revised Swiss Constitution of 1999 decrees that the Swiss federation and cantons support the equivalent recognition of vocational and general education pathways: "In fulfilling their duties they [the federation and the cantons, LG] promote equal societal recognition of general and vocational educational pathways" (Schweizerische Eidgenossenschaft, 1999: Art. 61a, translation LG). That dual apprenticeship training in Switzerland enjoys a very high reputation amongst the Swiss (several interviews, e.g., CH1, CH4) is also reflected in the high participation rate (see Table 20 above). Reactions to a recent report by the Swiss Academies of Arts and Sciences (*Akademien der Wissenschaften Schweiz*) (2009) illustrate this point. The report proposed that the number of (academic) baccalaureate graduates and HE students should be increased relative to apprentices. This immediately sparked a major discussion in Switzerland and was met by fierce resistance from the coalition of VET stakeholders (e.g., CH7, CH12). More generally, the view that VET and HE are "*andersartig, aber gleichwertig*" (different but equal) is deeply embedded in large parts of Swiss society.

The Swiss Focus on Higher VET (1960s–1980s)

The historically dominant position of VET in Switzerland also helps to explain why universities of applied sciences were not introduced as it was the case in Germany in the late 1960s/early 1970s during the early phase of HE expansion. A debate on the introduction of universities of applied sciences did take place in Switzerland in the 1970s (Interview CH4). However, at the time Switzerland opted to further expand higher VET rather than to build universities of applied sciences. Back in the 1960s, Switzerland had started to expand its higher VET sector, including today's colleges of higher vocational education and training (*höhere Fachschulen*) and preparation programs for the higher VET exams (*höhere Fach- und Berufsprüfungen*). Back then, one argument put forward against the creation of universities of applied sciences was that they were further away from the private sector and more expensive than VET programs (Interview CH15). At the time, the major goal seems to have been to increase the number of graduates from higher VET rather than from universities:

> Switzerland already expanded higher vocational education and training in the 1960s. These institutes [of higher VET, LG], […] were the subject of concentrated and targeted promotion in the 1960s. And what is also interesting is that, in fact, our priority – the priority in education policy – was, first of all, given to the education of a cadre [*Kader-Ausbildung*, LG], that is to the mid-level cadre and not the university bound cadre. (Interview CH7, translation LG)

That is, the educational expansion was largely absorbed by differentiating within the VET sector (Interview CH15). In fact, strongly orienting VET to business interests faced criticism during the Swiss students' movement in 1968. However, the political response to this protest was not to expand general education as such, but rather to create new pathways in the VET sector (see Gonon, 1994: 395). Such new pathways included shorter VET programs for young people considered to be more practically skilled (*Attestlehre*) and an explicit mission for vocational secondary schools (*Berufsmittelschulen*) to cater for the most skilled apprentices (Sommerhalder, 1989). Given the strong Swiss focus on IVET and higher VET, how did the Swiss universities of applied sciences thus come to be introduced in the 1990s?

8.3.1 Phase I (Genesis): The Introduction of the Vocational Baccalaureate and Universities of Applied Sciences as Strategic Layering (Late 1980s to Mid-1990s)

This section explores the background to the establishment of the vocational baccalaureate in 1993 and the universities of applied sciences in 1995, which in combination with dual apprenticeship training constitute the specifically Swiss hybrid organizational configuration (see Section 8.2). At first glance, considering the traditional dominance of dual apprenticeship training and higher VET in Switzerland (see previous section), this reform is rather striking. In this context, my analysis suggests that Switzerland has found a way to reform its skill formation system that does not radically break with its past. Thus, firstly, the vocational secondary schools (*Berufsmittelschulen*) – founded in 1968 – were turned into vocational baccalaureate schools (*Berufsmaturitätsschulen*) to provide the vocational baccalaureate after 1993 (Interview CH9; Gonon, 1994: 398). Secondly, the most prestigious colleges of higher vocational education and training (*höhere Fachschulen*), higher technical colleges (*höhere technische Lehranstalten* or *Ingenieursschulen*), and higher economic and administration colleges (*höhere Wirtschafts- und Verwaltungsschulen*) were upgraded into universities of applied sciences following the passing of a federal law in 1995 (BBT, 2009a: 6; BBT, 2009c). In the following "colleges of higher vocational education and training" will be used as an umbrella term to refer to these different types of educational organizations. Not all of these institutes were transformed into universities of applied sciences (see BBT, 2009c for a complete list of types of higher VET

organizations that were merged at a regional level and turned into universities of applied sciences).

Both the creation of the vocational baccalaureate and the universities of applied sciences were widely considered necessary by the relevant stakeholders (Interview CH1). By and large, all the actors were ready for such reforms (Interview CH16) and regarded them as useful (Interview CH2). While the initiative for establishing universities of applied sciences came from the colleges of higher vocational education and training themselves, the actual implementation of the universities of applied sciences was planned as a joint effort between major VET stakeholders (Interview CH3, CH5) and was closely supervised by the public authorities (including cantonal authorities like the Swiss Conference of Cantonal Ministers of Education) (Interview CH1). The planning of the universities of applied sciences was headed by the Swiss Federal Office for Industry, Trade, and Labor (*Bundesamt für Industrie, Gewerbe und Arbeit*, BIGA)[143] with the involvement of the federation, the Swiss Conference of Cantonal Ministers of Education, the occupational groups (*Berufsgruppen*), and the *Organisationen der Arbeitswelt* (OdA). The universities of applied sciences were designed primarily by VET actors. For example, staff from the old colleges of higher vocational education and training maintained significant influence in regard to the shaping of the universities of applied sciences. Moreover, the *Organisationen der Arbeitswelt* had already been represented in the governance of the colleges of higher vocational education and training and, consequently, were also involved in shaping the processes of their transformation into universities of applied sciences (see Weber, Tremel, and Balthasar, 2010: 695, 703). From an organizational point of view, universities of applied sciences stand in the tradition of the colleges of higher vocational education and training (*höhere Fachschulen*) (Tremel and Weber, 2010: 705). That is, the HE actors, like the State Secretariat for Education and Research or the universities, were not involved to the same extent in shaping the creation of the universities of applied sciences (Interview CH4). The universities perceived the process more as a process of differentiation within VET and, hence, did not get very involved in the process. As far as the universities were involved, they pushed for a well-defined boundary between themselves and the universities of applied sciences. However, their proposals that the universities of applied sciences' capacity to do research should be limited and that the certificates awarded should in addition carry the specification "*Fachhochschule*" were not realized (Weber, Tremel, and Balthasar, 2010: 696).

143 As was mentioned earlier, the Federal Office for Professional Education and Technology (BBT) was only founded in 1998.

The Major Driving Factors of Institutional Reform

The experts interviewed mentioned a number of factors that led to the creation of the organizational configuration of universities of applied sciences that build on dual apprenticeship training and a vocational baccalaureate (FHIVET*)*. Mainly from the late 1980s onwards, these factors include demands in the labor market for more theoretical knowledge (Interview CH12), the increasing attractiveness of academic titles in general (Interview CH6), as well as the perceived need to improve the attractiveness of dual apprenticeships (Interview CH2).[144] The development of greater institutional permeability within the education system was also supported by the pedagogical commission of the Swiss Conference of Cantonal Ministers of Education (EDK) in the 1980s and 1990s (Interview CH9). Furthermore, an important impetus for change was exogenously induced (Interview CH17). Arguably, in Switzerland the most important forces of modernization usually come from outside its borders (Interview CH4). That is, there are usually exogenous influences that force the stakeholders in the Swiss education system to act (Interview CH12). Also, the general move towards tertiarization in the 1990s was in principle not so much triggered by endogenous but rather by exogenous pressures (Interview CH8). The following paragraphs provide an overview of those exogenous influences that have facilitated the genesis of the vocational baccalaureate and the transformation of the colleges of higher vocational education and training into Swiss universities of applied sciences.

First of all, the development of the instruments for the mutual recognition of vocational qualifications at the European level (see Chapter 5) pushed Swiss VET stakeholders to compare qualifications in the Swiss VET system with those available abroad (long before the Bologna and Copenhagen processes were initiated) (Interview CH3, CH7). Furthermore, in 1990 the OECD published an influential report on the Swiss education system. Prior to this report, Switzerland had refused to submit its education system to the OECD's inspection (Gretler, 1991). As a result of the report, stakeholders in Switzerland became much more aware of the international dimension of education (Interview CH16, CH7). In comparing Switzerland with other countries, mostly their European neighbors, the OECD report raised two major concerns: the relatively small HE sector and, connected to this, the low rate of students acquiring a baccalaureate (see Gonon, 1994: 396–397; Gretler, 1991). Therefore, this OECD report played into the hands of those who were promoting the expansion of academic education (or rather the transformation of the colleges of higher vocational education and training into universities of applied sciences) (Interview CH5).

144 In addition, the federation promoted the creation of the universities of applied sciences as a means to stimulate the economy (Zosso, 2006: III–IV).

Furthermore, a 1992 referendum in Switzerland led to the country deciding not to join the European Economic Area (EEA). As a result, political actors started to develop alternative ways of integrating (Linder, 2013: 191). For example, the rules regulating the cross-border mobility of workers were somewhat relaxed by Swiss policy-makers out of fear that Switzerland would become increasingly isolated on such important aspects as labor mobility. It should be borne in mind that Switzerland's economy is highly interwoven at the international level. For example, there are many large multinational companies active in Switzerland, which means that the Swiss education system can hardly isolate itself from international influences:

> It surely is the awareness of how small Switzerland is that it cannot experience its own goals. An additional factor is the high economic integration. That is, the great number of managers from abroad who are located in Switzerland – and the multinational cooperations that are here. Therefore, it is impossible to isolate oneself. (Interview CH2, translation LG)

Moreover, according to Culpepper (2007), developments such as the establishment of the universities of applied sciences were pushed by the relative dominance of large and export-oriented enterprises in Switzerland and their interest in a higher level of general education.[145] Beyond that, exogenous pressure to reform was also exerted by the surge in mobility of labor on the European labor market (Interview CH13). From around the early 1990s an increasing number of workers with academic qualifications came to Switzerland to work – and especially from countries that are culturally similar (see, e.g., Müller-Jentsch and Zürcher, 2008). This exerted pressure on the Swiss VET system, as these immigrants' academic qualifications were competing with Swiss VET qualifications (especially in the service sector) (Interview CH4). While Switzerland's VET system enjoys a high reputation within Switzerland and beyond Switzerland's borders, the providers of higher VET qualifications still face the challenge that their qualifications are usually not well understood in other countries. Thus, and especially due to the increasing number of Germans with an academic education working in Switzerland, the Swiss stakeholders were forced to react in some way to position and upgrade their VET qualifications (Interview CH11). That is, as more people holding foreign qualifications had started to enter Switzerland, this also spoke in favor of the transformation of at least a selection of the colleges of higher vocational education and training into universities of applied sciences to ensure that domestic qualifications can stand on equal footing with the foreign ones (Interview CH15, CH12, CH4, CH9).

This increased need for the international recognition of domestic qualifications helps us to understand why the establishment of the universities of

145 However, SMEs and their associations are also influential players in the skill formation system, facilitating rather self-preservative institutional change (see Trampusch, 2010b, a).

applied sciences was initiated from within the VET system. The colleges of higher vocational education and training were aware of and most affected by the international and European developments (Interview CH7) and they became more and more aware that they are competing with providers of HE programs in other European countries (Interview CH3). For them, international recognition of their degrees – by conforming to European Union (EU) and US standards in particular – was one of the key goals of their transformation into universities of applied sciences (see Abplanalp, Bührer, and Escher, 2000: 98). This explains why the original initiative to upgrade the colleges of higher vocational education and training into universities of applied sciences came from these colleges themselves.[146] It was the representatives of educational organizations (see Kiener and Gonon, 1998: 9) and the competition between them that initially triggered the establishment of the universities of applied sciences.

The Role of "French Ideals" in the Setting-Up of the Swiss FHIVET Configuration

Furthermore, the way in which the Swiss FHIVET configuration was implemented to some extent represents a bricolage of institutional elements from the German-speaking part of Switzerland (*Deutschschweiz*) and the Romandie (*Westschweiz*). Throughout its historical development, the Swiss education system has also been shaped by developments in its large neighboring countries: Germany to the north and France to the east. The diffusion of French educational concepts and ideals is limited as far as the German-speaking part of Switzerland is concerned (Interview CH2) but significant in the case of the Romandie (Interview CH5). In France, full-time school-based VET is prominent and there are a number of measures that serve to create permeability between VET and HE, like the *baccalauréat professionnel* introduced in 1985 (for detailed descriptions of the French model, see Powell, Graf, Bernhard et al., 2012; Bernhard, forthcoming). This helps to explain why full-time school-based training (e.g., Seibert, Hupker-Brunner, and Imdorf, 2009: 615) and the discourse on permeability are more prominent in the Romandie than in the German-speaking part of Switzerland (Interview CH8, CH2):

> The Romandie is of course oriented towards France. And, especially, also with regard to the greater degree of permeability – for example in the sense of the recognition of non-formal learning – the Romandie is much more developed and orients itself towards France, while the German-speaking part of Switzerland has Germany as an orientation point (Interview DE8, translation LG)

146 More precisely, the initiative came from the Standing Conference of Principles of Engineering Schools (*Direktorenkonferenz der Ingenieursschulen*) and was addressed to the Federal Department of Economic Affairs (Weber, Tremel, and Balthasar, 2010: 694; Gonon and Maurer, 2012).

France's influence, via the Romandie, is also likely to have positively influenced the discussions on the creation of the vocational baccalaureate in Switzerland (Interview CH17), which then found its Swiss-specific implementation through a bricolage with institutional elements of the traditional dual apprenticeship system.[147] In this context – given the cultural-cognitive linkages between the Romandie and France – the Romandie can be seen as an entry point for French influences into Switzerland as a whole.

The Swiss Case of Strategic Institutional Layering as a Collective Effort

As we have seen, the Swiss education system is historically divided into VET and HE. However, starting in the 1990s a number of reforms were introduced – through strategic institutional layering – which established a hybrid organizational configuration at the nexus of these otherwise largely separate organizational fields (Hybridization Hypothesis). The universities of applied sciences, which were established in 1995 through a transformation of colleges of higher vocational education and training, are at the core of this new hybrid configuration. Moreover, the complementary creation of the vocational baccalaureate increased the degree of institutional permeability between VET and HE and helped to safeguard the dual apprenticeship system from reputational decline (Interview CH8, CH2). The vocational baccalaureate was designed to provide the best possible route into the newly created universities of applied sciences. As institutional elements characteristic for the fields of VET and HE were merged, this process of hybridization most closely resembles the hybridization scenario of "blending" (Genesis Scenario II). In this context, the involved educational organizations were themselves decisive change agents. More generally, this process of institutional change was facilitated by international and European influences long before the Bologna and Copenhagen processes began. Examples are Switzerland's relationship with its large neighbors France and Germany, and international educational standards promoted by the European Communities and the OECD, as well as the increasing immigration of academically qualified workers to Switzerland. One key goal of creating the universities of applied sciences was to position Swiss VET qualifications internationally. Overall, such exogenous influences have activated the consensual politics that I expected with regard to the theory of small state corporatism (see also Differential Impact of Europeanization Hypothesis II). The genesis of the Swiss FHIVET configuration was a relatively smooth process signifying incremental change characterized by the Swiss corporatist socio-economic structure (see also Chapter 3). The next

147 However, it should be noted that the French *baccalauréat professionnel* is not the same as the Swiss vocational baccalaureate. Moreover, the French system has numerous *Passerelle* in different parts of the education system (see Ministère de l'Éducation Nationale, 2012). These, however, are also not directly comparable to the Swiss implementation of the *Passerelle*.

historical phase looks at how this hybrid configuration has developed since its genesis.

8.3.2 Phase II (Further Evolution): The Maintenance of a Hybrid Organizational Configuration through Gradual Adjustments (Late 1990s to Present)

The specific Swiss hybrid organizational configuration of the Swiss universities of applied sciences that build on dual apprenticeship training and a vocational baccalaureate (FHIVET) is expanding and further institutionalizing linkages between the fields of VET and HE. The number of students enrolled in universities of applied sciences has grown rapidly from the start (from 4876 students in 1997/98 to 25,137 in 2000/01 and to 69,678 in 2009/10) (Bundesamt für Statistik, 2010: 10). But not only have the universities of applied sciences been expanding in terms of student enrolment, they have also become more embedded within the HE system. As institutional interaction between the Swiss universities of applied sciences and traditional universities increases, the tendency for universities of applied sciences to try to become more similar to traditional universities also increases (Interview CH12, CH15). In this context, one major factor is that some of the staff in the universities of applied sciences – mostly those academics at universities of applied sciences who were trained at traditional universities – would prefer it if the universities of applied sciences were primarily perceived as academic (not vocational) institutes (Interview CH6). Many of the academic staff at Swiss universities of applied sciences would like to see the reputation of their jobs as well as their salaries to be equal to those of their peers at traditional universities. Hence, this interest group is pushing for a gradual approximation of universities of applied sciences to universities (Interview CH3). Moreover, the administrators and managers of universities of applied sciences have an organizational interest in filling their study places and, thus, also an incentive to circumvent the principle that people holding an academic baccalaureate always have to accomplish a full year of practical training before they can embark on their studies at a university of applied sciences (Interview CH4, CH7).

A central political goal connected to the Swiss FHIVET configuration was to increase the number of *Maturanden* (i.e., people holding a higher education entrance qualification) via the vocational baccalaureate (not so much the academic baccalaureate) (Interview CH17). However, while the regulative norm as defined in the political realm says that the vocational baccalaureate is the ideal path into the universities of applied sciences, in some of the study programs offered at universities of applied sciences this is no longer reflected in students' educational backgrounds (Interview CH4).

Thus, there are now some programs offered at universities of applied sciences in which the majority of students hold an academic rather than a vocational baccalaureate (Interview CH1). A factor that has contributed to this situation is that in 2005 subjects such as health, social work, and arts were added to the universities of applied sciences for which no IVET program existed and which became frequented more by people with an academic baccalaureate (Interview CH5). For instance, in the subject of art, no practical experience (in the form of the *Passerelle* "academic baccalaureate – university of applied sciences") is required but there is an aptitude test (Interview CH8). As a consequence, a distinction is drawn between "traditional" university of applied sciences courses of study (such as technical studies and IT, construction and economics), in which 60–65% of the students hold a vocational baccalaureate, and a number of university of applied sciences courses that have been added to the university of applied sciences portfolio more recently (e.g., social work, health, applied linguistics, and psychology), in which only around one quarter of the students hold a vocational baccalaureate (Weber, Tremel, and Balthasar, 2010: 704). In other words, the vocational baccalaureate is now the ideal path ("*Königsweg*") of getting into a university of applied sciences mostly in the traditional disciplines rather than newer disciplines (Tremel and Weber, 2010: 110–111).

In view of the possible development that universities of applied sciences might lose their strong connection to VET and are possibly turning into "second-class universities" (Interviews CH2, CH11), major VET actors, including the Federal Office for Professional Education and Technology, have carried out reforms of the IVET sector. For example, health, social, and art-related occupations have recently been incorporated into the Vocational Training Act (*Berufsbildungsgesetz*). That is, for most of the newly introduced subjects at universities of applied sciences, a complementary program within the dual apprenticeship system has been or is being built up (Interview CH4, CH7). As a result, the vocational baccalaureate is on the whole being maintained as the ideal path into university of applied sciences (Interview CH3).

More generally, major reforms in the IVET sector that started in the mid-1990s have directly or indirectly supported the Swiss FHIVET configuration as they strengthen the IVET sector and, as a result, the basis of this configuration.[148] For instance, the process concerning the Vocational Training Act of 2004 started a new era in VET (Interview CH12). The Vocational Training

148 Since the mid-1990s a reform and "revitalization" of the dual apprenticeship system was driven forward by members of all parties, as well as private-sector stakeholders (e.g., small businesses and their associations). The outcomes were the *Lehrstellenbeschlüsse I* (1997–1999) and *II* (1999), which both constitute packages for easing tensions on the apprenticeship market and paved the way for the Vocational Training Act of 2004 (see Strahm, 2008: 321–327).

Act smoothed and consolidated the structure of the VET system, increasing its openness and permeability (see Galliker, 2010: 21). For example, the Act brought together partly fragmented VET regulations to establish a more transparent and comprehensive national VET system (Interview CH7). Crucially, the developments in IVET related to the Vocational Training Act of 2004 are in line with and support the founding of the organizational configuration of the Swiss universities of applied sciences that build on dual apprenticeship training (FHIVET).

Another example of the way in which VET stakeholders are working to maintain the specific characteristics of the FHIVET configuration is the debate on a new law on the coordination of the higher education system (*Hochschulkoordinations- und Förderungsgesetz*) (Bundesversammlung der Schweizerischen Eidgenossenschaft, 2011). The earliest possible date this law can take effect is 2014, as it is currently being discussed at the cantonal level and, in addition, still requires a cooperation agreement to be signed by the cantons and the federation (see SWTR, 2012). In this case, again, the VET stakeholders are trying to ensure that this new law safeguards the VET character of the universities of applied sciences and does not imply that they simply become "small universities" (Sigerist, 2009; Interviews CH4, CH7).

Institutional Work by VET Stakeholders Maintains the Hybrid Status of Swiss Universities of Applied Sciences

As the universities of applied sciences and the universities become better connected, there are some first signs of academic drift of the universities of applied sciences. However, this process is still very slow as actors in the organizational field of VET are working to maintain the unique features of the FHIVET configuration. That is, a two-fold dynamic with regard to the hybrid status of the Swiss universities of applied sciences was observed. On the one hand, universities of applied sciences (as organizational actors) to some extent aim to mimic traditional universities (academic drift). On the other hand, the IVET system is strong and flexible enough to (a) limit or (b) compensate for some of this drift. For example, actors such as the *Organisationen der Arbeitswelt* (OdA) and the Federal Office for Professional Education and Technology work together (a) to keep up the distinction between universities of applied sciences and universities and (b) to establish new IVET programs to preserve the complementarity between IVET and the changing study structure of universities of applied sciences. This also indicates that the hybrid FHIVET configuration is not meant to blur the boundary between VET and HE. In fact, while it is gradually increasing institutional permeability between VET and HE, it appears to be simultaneously stabilizing the distinct fields of VET and HE (see Evolution Scenario IV). On the one hand, the hybrid configuration strengthens the HE sector as the universities of applied sciences belong to and expanded ISCED 5A-level education.

On the other hand, it stabilizes the IVET system as it offers access to ISCED 5A-level education and, thus, means that IVET stays attractive for talented young people.

In the next section I explore the impact of contemporary Europeanization processes (the Bologna process and Copenhagen process) on the balance between VET and HE elements within the Swiss universities of applied sciences.

8.3.3 Exploring the Impact of Current Europeanization Processes on Hybridization (Late 1990s to Present)

While Switzerland is not a member of the EU, it is nevertheless profoundly affected by EU policies and strongly interwoven with the EU through a vast range of (bilateral) agreements (e.g., Linder, 2013). Some authors even argue that Switzerland has reached a level of integration that can be characterized as "customized quasi-membership" (Kriesi and Trechsel, 2008: 186–189). It should also be noted that Europeanization in the field of education is not confined to members of the EU. Both the Bologna process and the Copenhagen process have also been signed by European countries that are not EU members. Thus, Switzerland has been a full member of the Bologna process since 1999 (European Ministers of Education, 1999). However, it did not sign the Copenhagen Declaration, but has observer status and participates in expert meetings (Schwarz, 2011: 8).

The Bologna Process

Contrary to the political tradition in Switzerland, the Swiss government did not fully consult major stakeholders in the Swiss education system (including the cantons) before it signed the Bologna Declaration in 1999 (Interview CH15). The Swiss government considered the Bologna process as a window of opportunity for overcoming the reform backlog to which the Swiss HE system is inclined due to the complexity of Swiss federalism (Interview CH4). Here reform backlog refers, for example, to the lack of international student mobility (Interview CH9; Bieber, 2010: 783) as well as to the lack of harmonization in a HE system that is largely dominated by the cantons (see Osterwalder and Weber, 2004). The government and the state bureaucracy wanted to use the Bologna process to legitimize their own reform agenda (Interview CH3). The State Secretariat for Education and Research delegated the implementation of the Bologna process to the Rectors' Conference of the Swiss Universities (*Conférence des Recteurs des Universités Suisses*, CRUS). The CRUS is an intermediary organization that serves to coordinate the activities of the Swiss universities in the different cantons. By delegating the implementation of the Bologna process to the CRUS, the State Secretariat for

Education and Research successfully avoided a major conflict between the federation and the cantons and, in addition, facilitated inter-cantonal harmonization (Interview CH8, CH6).

Today, Switzerland is regarded a poster child with regard to the implementation of the Bologna process (Interview CH7) as its national implementation has been swift and comprehensive (Interview CH9; CRUS, 2010: 40; Rauhvargers, Deane, and Pauwels, 2009). An example of an area in which Switzerland has even progressed further than many other countries with comparable education systems is the recognition of qualifications and competences between universities, universities of applied sciences, and universities of teacher education (see KFH, 2008; CRUS, 2010: 42). In general, the State Secretariat for Education and Research tries to work together with the European agencies in Brussels in an "uncomplicated way" (Interview CH6). The Bologna process is one of those cases in which, once Switzerland does sign up to an international agreement, its national implementation is then usually characterized by "anticipatory obedience" (Interview CH1, CH2).

The Swiss universities of applied sciences started introducing Bachelor degrees in 2005 and they have also offered a few Master degrees since 2008 (SKBF, 2010: 208). The Swiss economy clearly accepts the university of applied sciences' Bachelor degrees as a qualification for labor market entry (Interview CH5, CH8). After finishing their Bachelor degree, students at traditional universities normally go on to study for a Master (Interview CH8). While at universities the percentage of Bachelor graduates moving on to a Master program immediately or one to two years later is around 87% (SKBF, 2010: 187), at the universities of applied sciences a Bachelor degree is clearly the standard qualification for labor market entry (SKBF, 2010: 208; BV, 1995: Art. 4).

However, the Bologna process is relatively blind to many of the specificities of the Swiss VET system and especially its strong dual elements (see Strahm, 2006: 9–10; 2008: 347). The Bologna process conceptualizes HE as a mode of learning that is primarily classroom-based and assumes that access to HE organizations takes place via full-time schooling at upper-secondary level. For example, the European Credit Transfer System (ECTS) of credit points is not designed to adequately valorize vocational experiences. Also, the process of accreditation for the Bachelor degrees seems to be more attuned to capturing academic and classroom-based learning (Interview CH13; see BBT, 2009a for details on the accreditation process in Switzerland). This focus of the Bologna process is problematic for the Swiss universities of applied sciences given their strong links to the VET system and considering that its graduates have often completed three to four years of apprenticeship training plus an extra year of general academic training before they can access universities of applied sciences. Arguably, completing this educational

pathway is more challenging than the more direct pathway of an academic baccalaureate plus a Bachelor degree from a university (Strahm, 2006: 9–10).

Furthermore, the Bologna process also has a significant impact on the relationship between universities of applied sciences (ISCED 5A) and higher VET (ISCED 5B). More generally, the relationship between higher VET and universities of applied sciences is currently one of the major problem areas in the Swiss education system (Interview CH11). While the most prestigious institutes of higher VET were transformed into universities of applied sciences in 1995, the remaining sector of higher VET is still huge in terms of certificates granted (Interview CH7). Thus, in 2009/10 there were 69,676 students enrolled in universities of applied sciences (Bundesamt für Statistik, 2013) and 53,457 in higher VET (Bundesamt für Statistik, 2012b, figure for 2009).[149] Especially for small and medium-sized firms (SMEs), higher VET is an important factor (Interview CH2). Moreover, for some of the employee associations – for instance, the Swiss Trade Association and the Association of Commercial Employees (*Kaufmännischer Verband*) – the provision of higher VET courses is a major source of revenue (Interview CH13, CH4) as these courses can be quite expensive (Interview CH2). However, the universities of applied sciences have turned into competitors of higher VET as they attract a similar target group. In addition, universities of applied sciences are offering more and more programs that were previously only available in higher VET (Interview CH15). The universities of applied sciences sometimes simply copy and adapt curricula from higher VET programs. At the same time, the universities of applied sciences receive more state subsidies than higher VET. Moreover, the universities of applied sciences grant a Bachelor degree that is internationally recognized. All these factors increase the attractiveness of the universities of applied sciences relative to the qualifications higher VET offers (Interview CH2). Thus, generally speaking, Bologna has increased the competition between universities of applied sciences and higher VET (Interview CH2).

In summary, the Bologna process has had a profound impact on the Swiss skill formation system. Switzerland, despite its history of political neutrality and its non-membership of the EU, is a poster child for the Bologna process. The Bologna process was taken up by Swiss stakeholders as a welcome opportunity to overcome the reform backlog. As a result, it progressed quickly. In this sense, the "downloading" of European HE policies served the federal actors as a device for legitimizing a domestic reform agenda. However, the Bologna process signifies an environmental shift for universities of applied sciences as it subsumes universities of applied sciences and traditional universities within one organizational field, as predicated in

149 Higher VET (ISCED 5B) includes colleges of higher vocational education and training (especially those that were not transformed into universities of applied sciences) and preparation programs for the higher VET exams (see Section 8.1).

the European standards for HE. That is, the Bologna process is pushing universities of applied sciences – and to some extent also higher VET – more and more out of the organizational field of VET and into the organizational field of HE. This process increases institutional permeability between universities of applied sciences and universities, but in doing so threatens to decrease permeability between initial VET and HE. However, while the Swiss universities of applied sciences are gradually approximating universities (Interview CH4), this process is still far less pronounced than in Germany's case (Interview CH5).

The Copenhagen Process

While Switzerland signed the Bologna Declaration and was among the first movers to implement the new BA/MA degree structure, it has not signed the Copenhagen Declaration. Switzerland currently only holds observer status in this process (BBT, 2012). It is taking part in only some of the initiatives linked to the Copenhagen process (see Stalder, 2006; Bieber, 2010). Out of the package of instruments that make up the Copenhagen process (see Section 5.2.2), the Federal Office for Professional Education and Technology decided to prioritize the development of a National Qualification Framework (NQF) (see BBT, 2009b: 11–12). Currently, Switzerland is in the start-up phase of developing its NQF. The first phase of consultations regarding the Swiss NQF took place from February to May 2012 (Schweizerische Eidgenossenschaft, 2012a; Interview CH6). So far implementation of the European Qualification Framework (EQF) in Switzerland has been far from smooth. There is no real public discourse on Copenhagen, which contrasts with the Swiss experience with Bologna (Meyer, 2010).[150] Switzerland is considered to be one of the least enthusiastic countries with regard to the introduction of an NQF applied to VET (Trampusch, 2010b: 26, 28).

One reason why Switzerland is not very enthusiastic about the Copenhagen process is that the collective actors in the Swiss VET system had already accomplished substantive reforms that led to the new Vocational Training Act of 2004. Furthermore, I found that many of the Swiss VET stakeholders are rather weary about the NQF because they observed the conflicts over the NQFs in Germany and Austria (Interview CH8). In this context, the success of the NQF and Copenhagen process in Switzerland depends crucially on the success or failure of this process in Germany:

> You know, one has to recognize that Switzerland is a small country. And it will be decisive whether the Copenhagen process will prevail in Germany. If it does, Switzerland and Austria will follow suit. (Interview CH9, translation LG)

150 According to Bieber (2010: 787), "[a]s of 2010, there are practically no legislative adaptations in Swiss VET policy that can be traced back to Copenhagen's influence because it is still 'work in progress'."

Moreover, the Federal Office for Professional Education and Technology is currently being rather hesitant with regard to the EQF (Interview CH3). It was very enthusiastic at first about the EQF and was the main driver behind its implementation in Switzerland. Now, however, it is skeptical whether so much Europeanization is not just a "paper tiger" (Interview CH9). This also relates to skepticism about whether the EQF indicators can adequately capture training in the firm (Interview CH16). While the Federal Office for Professional Education and Technology's goal is to improve the international comparability of Swiss qualifications, it explicitly wants to avoid a homogenization of these qualifications along the lines of European standards (see BTT, 2012: 2). In this context, one of the declared goals of the federation, the cantons, and the *Organisationen der Arbeitswelt* (OdA) is to position Switzerland's VET qualifications as being "*andersartig, aber gleichwertig*" (different but equal) in relation to comparable general or academic education qualifications in other countries (Schwarz, 2011: 8). More generally, the Federal Office for Professional Education and Technology takes the stance that higher VET qualifications should also be placed in the highest levels of the EQF/NQF (Interview CH5). However, it remains to be seen what kind of conflicts will arise between the VET and HE stakeholders when Switzerland reaches the NQF implementation stage.

Another factor that is slowing down the NQF process is that the HE sector had already developed a qualification framework for HE (nqf.ch-HS) by 2009. In 2005, the State Secretariat for Education and Research delegated the organization of the development of such a qualification framework for HE to the Rectors' Conference of the Swiss Universities (CRUS, 2011a). However, two parallel debates on two different qualification frameworks (nqf.ch-HS and NQF) leads to some confusion (Interview CH6). Interestingly, the universities of applied sciences – as organizations that grant Bachelor degrees – are part of the nqf.ch-HS. However, the nqf.ch-HS has not yet been fully implemented as the universities of applied sciences also belong to the field of VET and are under the remit of the Federal Office for Professional Education and Technology, which is worried about the compatibility of the nqf.ch-HS with the overarching NQF (Interview CH8). This shows that the division of responsibility between the State Secretariat for Education and Research (general education and HE) and the Federal Office for Professional Education and Technology (VET including universities of applied sciences) is hampering the implementation of the NQF (Interview CH8).

In summary, the Copenhagen process is not yet well known and is having little influence in Switzerland (Interview CH5, CH9). Some VET stakeholders place high hopes on the Copenhagen process, but fear that it is arriving too slowly and that its implementation is too contentious (Interview CH2). As the Copenhagen process does not seem powerful enough to match the Bologna process (e.g., in terms of the international recognition of qualifications),

and due to a lack of trust in the Copenhagen process more generally, some VET stakeholders even believe that the best option is if VET joins the Bologna process (e.g., Interview CH9, CH13). For example, some of the providers of Swiss higher VET qualifications now lobby for the introduction of a "Bachelor professional" certificate for higher VET qualifications.

8.4 Summary

The organizational configuration of universities of applied sciences building on dual apprenticeship training and a vocational baccalaureate (FHIVET) – which was strategically designed in a collective effort by key VET stakeholders in the early-1990s – represents a layer on top of the traditional VET system. Thus, Switzerland has increased its share of HE students (ISCED 5A) by transforming the most prestigious colleges of higher vocational education and training into universities of applied sciences. This transformation does not call into question the core organizing principle of the Swiss VET system precisely because these new Swiss universities of applied sciences build directly on the traditional dual apprenticeship system. Since the mid-1990s the FHIVET configuration has expanded rapidly. While there are some tendencies for the Swiss universities of applied sciences to mimic the traditional universities, the VET stakeholders are actively working against such isomorphic tendencies through a number of institutional adjustments (e.g., the creation of complementary VET programs at upper-secondary level). As a result, the unique hybrid features of the FHIVET configuration are being maintained.

The Swiss universities of applied sciences quickly adopted the Bologna process (1999) and have gained in popularity since they now offer internationally recognized Bachelor degrees. However, for a variety of reasons the Copenhagen process (2002) has met with less enthusiasm than the Bologna process. This is exemplified by the delayed development of the NQF. The Copenhagen process does not seem to be developing the momentum needed to balance the Bologna process's implicit focus on classroom-based academic learning. However, while the Bologna process signifies a trend towards academic drift, the key actors from the field of VET (e.g., the Federal Office for Professional Education and Technology) are using their influence in the governance of the FHIVET configuration to protect the hybrid features of this organizational configuration. Table 27 provides an overview of some of the key historical developments analyzed in this chapter.

Table 27: Stylized overview of key historical developments related to hybridization between VET and HE in Switzerland

	General description	Pattern of institutional change	Institutional permeability between VET and HE
Phase I: Genesis of the FHIVET configuration			
1993/1995	Foundation of vocational baccalaureate classes (1993) and universities of applied sciences (1995)	Collective effort enables layering in the form of Swiss universities of applied sciences based on dual apprenticeship training and vocational baccalaureate	Increase due to hybridization
Phase II: Further evolution of the FHIVET configuration			
Mid-1990s–	Expansion; active maintenance of hybrid status by VET actors	Stabilization of hybrid through gradual adjustments	Increase due to further hybridization
Impact of current Europeanization processes			
1999–	Rapid adoption of Bologna process by universities of applied sciences; development of NQF lagging behind	Drift of hybrid towards HE, but slowed down by VET actors	Increase as dual studies gain in popularity; decrease due to tendency towards academic drift (but further drift meets strong VET opposition)

Source: Author's illustration

In the next step, I compare the key findings from the three country chapters to provide a general picture of the hybridization of vocational education and training and higher education in Austria, Germany, and Switzerland.

9. COMPARISON: Hybridization at the Nexus of VET and HE in Austria, Germany, and Switzerland

In this chapter I contextualize the insights from Chapters 6–8 by means of a systematic comparison across the three national cases. First, I summarize the common challenges that all three skill formation systems face and provide an overview of the resulting national patterns of hybridization. Next, I present some key factors that account for the differences in the development of the three cases of hybridization. Then, I derive more general processes that are linked to the genesis and evolution of hybridization at the nexus of VET and HE in the DACH countries. In this context, key mechanisms (e.g., playing with ambiguities and loose coupling) that I found to go along with hybridization are discussed. Finally, I compare the influence of European educational policies on Austria, Germany, and Switzerland. This includes a summary of core aspects of the current Europeanization processes that are particularly salient for countries with strong dual apprenticeship training systems as well as a detailed analysis of the impact of the introduction of Bachelor degrees and the European Qualification Framework on the hybrid organizational forms in the DACH countries. This chapter also describes some inductive findings, or lessons learnt, from the three country-specific chapters that go beyond the expectations developed in Chapter 3.

9.1 The Common Challenge in the DACH Countries: Upskilling Despite the Institutional Divide between VET and HE

A complex set of interrelated socio-economic factors result in increasing demand for higher skills (also known as upskilling). These factors include changes in the production model and the workplace (see, e.g., Mayer and Solga, 2008; Solga, 2009; Streeck, 2012), in the education system (see, e.g., Baker, 2009), and in individuals' educational aspirations (see, e.g., Lutz, 1983). Furthermore, these factors are linked to larger developments at the global, international, and European levels, such as heightened economic competition between knowledge-based economies. One of the consequences, in the DACH countries amongst others, is a perceived pressure to expand the higher education (HE) system in line with the discourse promoted by international organizations such as the EU and also the OECD. However, the DACH

countries are more skeptical than most other European countries about the simple upgrading of vocational programs to the HE level.[151] For example, a significant number of stakeholders in the DACH countries are convinced that the traditional vocational education and training (VET) system represents an important comparative institutional advantage. More generally, in Austria, Germany, and Switzerland any expansion of the HE sector faces the barrier of a strong institutional divide between VET and HE and the attractive alternative of apprenticeship training (see Stasis Hypotheses I, II, and III).

However, in addition to what Baethge's theory of the educational schism would lead us to expect (see Baethge, 2006a), my analysis shows that the strong institutional divide between VET and HE does not exclude specific types of hybridization. I found that this hybridization is a response to the existence of the rigid institutional divide between VET and HE in times of rapid environmental changes. In this sense, the educational schism has led to specific types of hybridization being observed in Austria, Germany, and Switzerland. In the next section, I summarize and compare some major characteristics of the respective hybrid organizational forms.

9.2 The Three Hybrid Organizational Forms at a Glance

The three country-specific chapters traced crucial developments at the boundary of the organizational fields of VET and HE in Austria, Germany, and Switzerland. Based on the theoretical criteria developed for hybridity (see Section 3.3.4), the empirical analysis yielded the following results: In Germany, the criteria are best met by those dual study programs that award a Bachelor degree and integrate an initial VET certificate (*ausbildungsintegrierende duale Studiengänge*), as well as by the so-called *praxisintegrierende* and *berufsintegrierende* dual study programs. In Austria, the *berufsbildende höhere Schule* (BHS, higher vocational school with higher education entrance qualification) qualifies as a hybrid straddling both the boundary between VET and HE as well as between upper-secondary and post-secondary education, thereby bridging the VET and HE gap on several key dimensions. The BHS can grant a triple qualification: Graduates are awarded a VET diploma, a higher education entrance qualification, and can apply for an engineering title after gaining two years of work experience.[152] Even without this title, graduates from the BHS are often as sought-after on

151 This is remarkable in the sense that the Anglophone educational discourse usually favors HE over VET, which is partly due to VET not being an attractive alternative in Anglophone countries.

152 The engineering title is available to graduates from the BHS of engineering, arts and crafts and the BHS of agriculture and forestry (see Chapter 7).

the Austrian labor market as Bachelor graduates from universities of applied sciences. In Switzerland, the organizational combination of universities of applied sciences based on dual apprenticeship training and a vocational baccalaureate (FHIVET) meets the criteria for hybridity, for example as it combines a VET and a HE certificate and is subject to a mix of VET and HE governance. Table 28 illustrates the three hybrid organizational forms and serves as a reminder of key organizational characteristics that define them as such.

Table 28: Overview of the basic characteristics of hybrid organizational forms in Germany, Austria, and Switzerland

	Germany	**Austria**	**Switzerland**
Hybrid organizational form	*Ausbildungsintegrierende, praxisintegrierende,* and *berufsintegrierende* dual study programs*	BHS**	FHIVET configuration
Type of certification (see Hybridity Criteria I and II)	**Upper-sec. level:** Initial VET certificate **Post-sec. level:** Bachelor degree	**Upper-sec. level:** Academic baccalaureate & VET diploma (*Reife-* & *Diplomprüfung*) **Post-sec. level:** Possible to attain engineering title after some work experience	**Upper-sec. level:** Initial VET certificate and vocational baccalaureate (the latter can be attained in parallel or sequentially) **Post-sec. level:** Bachelor degree
Governance (see Hybridity Criterion III)	HE governance combined with VET governance as far as the initial VET certificate is concerned	Responsible body is the Federal Ministry for Education the Arts and Culture, but with the involvement of social partners	The Federal Office for Professional Education and Technology*** is responsible for the universities of applied sciences; strong involvement of the *Organisationen der Arbeitswelt* (OdA)

* This column illustrates dual study programs based on the example of the *ausbildungsintegrierende* dual study programs.

** This column illustrates dual study programs based on the example of the BHS of engineering, arts and crafts and the BHS of agriculture and forestry.

*** As was mentioned earlier, in 2013 the Federal Office for Professional Education and Technology and the State Secretariat for Education and Research were merged to create the State Secretariat for Education, Research and Innovation (see Section 8.2).

Source: Author's illustration

The organizational boundaries of the hybrid BHS in Austria are relatively clearly defined since they represent historically established organizational entities within the Austrian skill formation system. In Germany, the hybrid dual study programs are in the process of structuring an entirely new organizational field that represents hybridity at the nexus of VET and HE. In this

process, the interaction between actors and organizations involved in dual study programs is increasing, as is an awareness that they are part of a common enterprise. In addition, category systems for the classification of dual study programs are starting to be developed and the programs are progressively being marketed as a distinctive brand in the German skill formation system (cf. DiMaggio and Powell, 1983: 148 on the structuration of organizational fields). In Switzerland, the universities of applied sciences are designed to build on a dual apprenticeship program with vocational baccalaureate. Due to the tight institutional linkages between the Swiss universities of applied sciences and dual apprenticeship plus vocational baccalaureate, they together constitute a hybrid organizational form.

9.3 Three National Patterns of Hybridization

While all three analyzed organizational forms meet the criteria for hybridity developed in Chapter 3, they also differ in interesting ways (see Table 29). This section sheds light on why they took diverse shapes in Germany, Austria, and Switzerland despite these countries' similarities in skill formation. This section partly presents inductive findings resulting from the process tracing in the country chapters. The following section (Section 9.4) starts to link the general characterizations of the three national patterns of hybridization more directly to the theory chapter and, in particular, to the concept of small state corporatism (Country Differences Hypothesis III).

Table 29: National patterns of hybridization

	Germany Dual studies	**Austria** BHS	**Switzerland** FHIVET
General characterization	Historical contingency	Long-term historical evolution	Deliberate institutional design
Founded	Early 1970s	Institutionalized in today's form in the 1960s (roots in the 18th and 19th century)	Late 1980s/early 1990s
Influence of French VET system	French VET system mostly referred to as contrasting case	Historical influence in the 19th century (Dumreicher's reforms)	Some influence through the Romandie (which has close links to France)
Key actor(s) in the genesis of the hybrid organizational form	Large industrial firms	Political parties (mainly Social Democrats) and individuals' choices	Higher VET organizations themselves

Source: Author's illustration

Germany: Historical Contingency

In Germany the emergence of the dual study programs from the late 1960s onwards (first in the form of vocational academies) was largely a subversive response by large industrial firms (which are more dominant in Germany than in Austria or Switzerland) to the perceived academic drift related to the creation of universities of applied sciences. This emergence was not part of the strategic planning of policy-makers but signifies an unintended consequence of the upgrading of former vocational and engineering schools into universities of applied sciences. The first dual study programs were created in a bottom-up process by local stakeholders who found a niche in the grey area between the HE and VET fields. Hence, the genesis of the dual study programs can be characterized by "historical contingency" (especially compared to the genesis of the hybrids in Austria and Switzerland). In comparison to the Austrian and the Swiss hybrid cases, in the German case of the dual study programs national standardization is least given due to the variety of shapes dual study programs take in different locations in Germany.[153]

Austria: Long-Term Historical Evolution

The BHS in Austria became institutionalized in its present form in the 1960s but has its roots in the 19th century and even earlier. Its creation is best described as long-term historical evolution that goes back to the influence of French ideals (based on school-based VET) imported by Dumreicher (in the 19th century) and even to educational reform policies that date back to Maria Theresia's reign (in the 18th century). Furthermore, my empirical material suggests that the Austrian full-time school-based sector was historically influenced by the close ties Austria once had with Hungary. These influences led to a strong school-based VET sector that in combination with the also significant dual apprenticeship training sector prepared the ground for the creation of the hybrid BHS. Its expansion was supported by the strong demand from pupils (and their parents) for BHS qualifications and financed by a Social Democratic-led government. The BHS constitutes a vital part in the evolution of the Austrian skill formation system more generally.

Switzerland: Deliberate Institutional Design

The creation of the universities of applied sciences, which was overseen at the federal level, in combination with the vocational baccalaureate started in

153 Here, the degree of national standardization also refers to the ease with which individuals can access information about the respective hybrid option. For example, due to the complexity of the emerging field of dual studies, the Federal Institute for Vocational Education and Training's database on dual study programs is still at a developmental stage at the time of writing.

the late 1980s and was largely completed around ten years later.[154] In Switzerland the upgrading of prestigious vocational and engineering schools into universities of applied sciences was initially driven by these schools' interest in better international recognition. The hybrid status of the Swiss universities of applied sciences can, furthermore, be explained by the very large proportion of each cohort enrolled in dual apprenticeships (around 60%, see Chapter 8). The goal was to provide a suitable form of HE studies for this specific target group of apprentices. Thus, the vocational baccalaureate was designed as the ideal route into the new universities of applied sciences. Another part of this institutional design are the *Passerellen* (see Section 8.2), whose implementation is also likely to have been facilitated by French educational ideals through the French-speaking part of Switzerland (Romandie). Both the vocational baccalaureate and the *Passerellen* signify systematic linkages between VET and HE.

9.4 Different Patterns of Capitalist Development

The three different national patterns of hybridization derive from a variety of conditions that I have sketched in the three country case studies. In this section I argue that, in comparing the three country cases, these national patterns can be linked to specific types of capitalist development. However, each of these types is still compatible with the pattern of gradual institutional change identified earlier, namely hybridization in the form of organizational forms that represent layering at the nexus of VET and HE.

Anti-Collectivist Development in Germany

From the point of view of institutional theory, the German case presents an interesting puzzle, given that the genesis of dual study programs reflects historical contingency. The dual study programs stand in a complex relationship to the long-established dual apprenticeship training. Moreover, the expansion of dual study programs presents a challenge to both the traditional understanding of industrial relations in the "German model" as well as to the theory of Varieties of Capitalism (VoC) more generally. As Streeck (1992: 33) has observed "[t]he German training system with its nationally standardized and rigorously enforced curricula is governed in a 'corporatist' fashion, that is, by employers' associations and trade unions together under a state umbrella." This mode of coordination in the German training regime has

154 In contrast, the universities of applied sciences in Austria were established from scratch and the BHS – which had long been perceived to be a sufficient substitute for universities of applied sciences – remained untouched.

been identified as one of the institutional conditions of diversified quality production (Streeck, 1992). In this context, encompassing German employer associations, in conjunction with trade unions "are well placed to supply the monitoring and suasion that the operation of such a system demands as well as the deliberative forums in which skill categories, training quotas, and protocols can be negotiated" (Hall and Soskice, 2001: 26).

From this perspective, the genesis and ongoing expansion of dual study programs signifies a certain degree of exhaustion of collective skill formation. For instance, I found that the expansion of dual study programs implies some degree of de-standardization and also a decline in associational self-regulation (see Streeck and Schmitter, 1985 on the concept of private interest government). One reason for this is that employee associations and trade unions play a rather marginal role in the governance of the HE system, while universities and other HE institutes have greater autonomy in their doings than schools in the VET sector. With reference to Höpner's (2007) distinction between "coordination" and "organization" as two different functions of institutions, the rise of dual study programs points to disorganization rather than a decline in strategic coordination. According to Höpner (2007: 3), the *coordination function* of institutions "canalizes individual maximization strategies of firms in order to adjust for collective action problems," while the *organization function* "transcends maximization strategies and adjusts them to collective interests beyond maximization."[155]Applied to dual study programs, I observed that these presume strategic coordination between, for instance, firms, HE institutes, and the state. However, the contribution of dual study programs to collective interests is more questionable and requires further exploration.

Individual firms take advantage of the more loosely regulated HE environment to set-up dual study programs with individual HE institutes (but to which firms then largely control access). The dual principle is thereby adapted to new purposes while rigidly-defined "old" occupations can be adjusted to the specific skill demands of firms. For example, there are only a few employer/works council agreements (*Betriebsvereinbarungen*) on dual study programs (see Busse, 2009: 20). The actual process of learning and the official status of students in the workplace largely depend on the specific agreements between the firm and the student, as well as between the firm and the HE institute (see Becker, 2006: 58). Moreover, at times the theoretical part and the practical training of dual study programs are not well integrated (see Jahn, 1999: 20). More generally, the degree to which the curriculum is coordinated between the firm and the HE institute depends very much on the specific practices in specific dual study programs.

155 See Thelen (2012) on the similar distinction between coordinated and egalitarian forms of capitalism.

This lack of national standardization contrasts with the more rigidly coordinated dual apprenticeship training at upper-secondary level. At the same time, it seems that firms are not particularly eager to develop such standards for dual studies, as the current situation allows them to utilize the greater leeway that dual study programs offer in comparison to dual apprenticeships at upper-secondary level. The trade unions are only slowly starting to pick up on the topic of dual study programs, and are aiming to increase their influence in this growing field. Trade unions' interests include fighting uncontrolled proliferation (especially with regard to the contracts between students and firms), guaranteeing students a job after graduation, as well as recruiting new members (Interview DE11). However, it is an open question whether the trade unions will succeed in gaining a foothold in the organization of dual study programs.

Another aspect of the dual study programs that relates to potential anti-collectivism is the fact that dual study programs seem to be more attractive to large firms than small firms. It is already telling that the genesis of vocational academies has been driven by large firms. Recent studies of the German vocational training system point to cleavages within the camp of employers as one of the major factors in shaping the system's specific pattern of institutional change (e.g., Trampusch, 2010a). Thus, I suspect that hybridization in the form of dual study programs is (just) one more dynamic in what Thelen and Busemeyer (2012) characterize as a tendency of VET in Germany to develop from collectivism to segmentalism. Culpepper and Thelen (2008: 43) suggest that as long as large manufacturers – who dominate the employers' associations – are playing by the rules in the dual apprenticeship training system, no radical change is to be expected.[156] However, large manufacturers are increasing their involvement in dual study programs, which implies that they are often running dual apprenticeship training (at upper-secondary level) and dual study programs (at post-secondary level) in parallel. The extent to which large firms will use dual study programs to complement or substitute dual apprenticeship training and higher VET qualifications such as *Meister* (Master craftsmen) or technician will crucially shape the future character of collective skill formation in Germany.

Small State Corporatism in Austria and Switzerland

With reference to Streeck's (2011: 161) suggestion that "[a]n institutionalist theory of capitalism cannot but be a theory of institutional change," it appears that capitalist development in the skill formation system – in the form of increasing disorganization and segmentalism – is advancing faster in Germany than in the smaller states of Austria and Switzerland. In this context, small

156 For an account of the importance of employer coordination for social solidarity in national models of capitalism, see Thelen (2012: 143–145).

state corporatism turns out to be a useful theory for distinguishing the German case from the Austrian and Swiss cases (all three of which are coordinated market economies). That is, the conditions for institutional change in Austria and Switzerland differ from those in Germany due to the presence of small state corporatism in the former two countries (see Country Differences Hypothesis III). As was elaborated in Chapter 3, one of the key arguments related to small state corporatism is that "[p]erceived vulnerability generated an ideology of social partnership that had acted like a glue for the corporatist politics of the small European states" (Katzenstein, 2003: 11). Broadly speaking, in smaller states like Austria and Switzerland the traditional actors in the respective education systems tend to be more closely connected, which helps compromises to be forged. This has facilitated both the creation and integration of the respective hybrid organizational forms within the system of small state corporatism. In other words, neither the BHS in Austria nor the Swiss FHIVET configuration are examples of a decline in the organization function of small state corporatism. This, in turn, fits the characterization of the genesis of hybridization as a long-term historical process in Austria and as strategic institutional design in Switzerland. In Chapter 10 I further discuss the implications of the different patterns of capitalist development in Germany, Austria, and Switzerland. Moving from this macro perspective to the meso level of analysis, the next section discerns key processes in the genesis and evolution of hybridization in the DACH countries.

9.5 Key Processes in the Genesis and Further Evolution of Hybridization

The previous section sketched three national patterns of hybridization and related capitalist patterns of development. However, a number of common processes underlie each of the three cases of hybridization, especially when looking in more detail at the processes related to hybridization at the meso level of organizations. In the following I build on the country-specific chapters to describe these common processes at a conceptual level. After that, I illustrate the processes for each of the three countries.

A. Conversion, Blending, and Layering

This first process belongs to Phase I (Genesis). Chapters 6–8 show that the hybrids are not so much produced through the invasion of one institutional logic by another, but rather through mutual approximation of two distinct institutional logics, which results in the blending of VET and HE elements within a new hybrid organizational form. I found that all three country cases

resemble the scenario of "blended worlds" (see hypothetical scenarios of hybridization in Section 3.3.4). That is, in all three cases the hybrids come into existence through a blending process that – in the form of the hybrids – diminishes the differences between the distinct institutional logics of VET and HE in the DACH countries (Genesis Scenario II). In fact, the traditional institutional elements from VET and HE are being partially converted for this blending process. Here, conversion can refer, for example, to a reinterpretation of rules, standards, and ideas that are part of conventional definitions of VET and HE. Thus, conversion and blending bring about the hybrid organizational forms that are located as a layer at the nexus of VET and HE. Thus, blending, conversion, and layering are linked rather than being clearly separate.[157] While blending, conversion, and layering are all associated with the genesis of hybridization, they also have a bearing on its further evolution.

There are three processes that belong to Phase II (Further Evolution): the persistence of the institutional divide between VET and HE; the (potential) frictions between hybrid and non-hybrid organizational forms; and ambiguity and loose coupling as a buffer enabling the maintenance of hybridity.

B. Persistence of the Institutional Divide between VET and HE

My analysis of hybridization hints at a combination of the scenario of "blended worlds" with that of "coexisting worlds," highlighting cases in which traditionally dominant institutional logics remain distinct despite the presence of hybrid boundary organizations (Evolution Scenario IV).[158] Indeed, Chapters 6–8 have shown that the institutional divide between VET and HE continues to exist in all three countries but is complemented by layering in the form of hybrid organizational forms that span the boundary between VET and HE. While the hybrids are becoming firmly established within the skill formation system, they do not threaten the respective core institutional logics of the traditional fields of VET and HE. Correspondingly, I found a somewhat constrained expansion of the hybrid organizational forms – which refers to partial hybridization at the system level. In fact, hybridization even serves to ward off greater and more profound challenges to the core institutional logic of the traditional fields of VET and HE. That is, core elements of the institutional configuration of the traditional organizational fields of VET and HE are to some degree stabilized as the pressures to reform them is – at least partly – absorbed by the new hybrid organizational arrangements. Thus, hybridization is also associated with a stabilization of the traditional institutional logics of VET and HE, respectively.

157 Further below I illustrate this phase of genesis using the three country cases as an example.

158 Conversely, what was not observed is the scenario of "hostile worlds" in which hybridization would be indicative of a process of domination of one institutional logic over the other and possibly cause collapse (on "hostile worlds", see Haveman and Rao, 2006, and Section 3.3.4).

C. Frictions between Hybrid and Non-Hybrid Organizational Forms

Nevertheless, in the further course of hybridization, a potential inter-organizational conflict arises. As the hybrid layer results from the blending of elements from traditional organizational forms in VET and HE, and as these traditional organizational forms are maintained nevertheless, we can observe some overlap in the functions of the hybrid organizational form and the affected traditional organizational form(s). In turn, this overlap – in terms of some degree of functional equivalence – implies a potential friction between these organizational forms. Here, friction between organizational forms means that their relationship is marked by competition rather than that it is complementary. This does not necessarily imply a head-on clash between the involved organizational forms. Rather, these educational organizations compete for the same resources in order to maintain their organizational structure. For instance, they rely on similar sources of funding, a similar target group of students, and, more generally, the widespread recognition of their qualifications on domestic and foreign labor markets. Furthermore, this type of friction relates to the discussion in Section 3.3.4 that hybrids are not necessarily stable constructs. In other words, hybrid organizational forms are constantly at risk of collapsing (Evolution Scenario I) or of transforming into a new, non-hybrid form (Evolution Scenario II). In this context, the key question is how the hybrids will in fact be maintained in the medium and long run.

D. Ambiguity and Loose Coupling Enable Buffering

In my analysis I found that the friction referred to in the above can be reduced if the involved organizational forms are decoupled to a significant extent. Loose coupling has a buffering effect, which helps to create persistence. However, a precondition for this loose coupling is that the institutional environment is sufficiently ambiguous. In such an environment, it is possible to have institutional coherence at the surface despite defections in actual organizational practice. Given the inductive finding from the case studies that ambiguity and loose coupling play a central role in enabling hybridity, I next include some theoretical notes on these two concepts (see also Section 3.3.5). Please note that the concept of ambiguity is more commonly employed by historical institutionalists and that of loose coupling more commonly by organizational institutionalists.

The Concept of Ambiguity in Historical Institutionalism

Institutions reduce uncertainty, but at the same time they can be interpreted in several ways (Jackson, 2005a: 229–230). Ambiguity can be perceived as quite a permanent feature of institutional rules (Mahoney and Thelen, 2010b: 11), which provides the leeway for the creative enactment of rules (see

Sheingate, 2010: 170). The degree of ambiguity of institutions varies, for example, as new aspects of institutions are discovered through processes such as learning, experimentation, or accidents (Jackson, 2005a: 236). The concept of ambiguity can be linked to the modes of gradual institutional change (Streeck and Thelen, 2005b; Mahoney and Thelen, 2010a), and here especially to the mode of conversion, according to which institutions formally stay in place but are enacted in new ways (see also Section 3.3.1).[159] Thus, for instance, the complexity of institutional rules enhances the potential for combining rules in new ways or converting them, yet without challenging the entire institutional setting (see Sheingate, 2010: 200).[160] In addition, institutions can have a "contradictory potential" as they serve to support the interests of politically dominant actors but at the same time enable marginal actors to gradually undermine this very institution (Onoma, 2010: 65). For example, in the case of reform backlog, one strategy of actors for overcoming institutional rigidities is the creative use of ambiguities within institutions and institutional configurations (Jackson, 2005a: 229–230). However, the use of ambiguities is not always intentional and strategic, but, for example, "may be undertaken for normative (value laden) purposes" (Carpenter and Moore, 2007: 341, 362).

The Concept of Loose Coupling in Organizational Institutionalism

According to organizational institutionalists, the survival of organizations is, beyond organizational efficiency, conditional on organizational conformity with dominant institutional myths present in their environment (Meyer and Rowan, 1977: 344, 353, 361) and also on the correspondence with a given cultural-cognitive framework more generally (see Scott, 2008: 50–60). From this perspective, organizations seek legitimacy to acquire social acceptability and credibility (see Scott, 2008: 59). However, the dominant myths in a given society are not always consistent, implying that "organizations in search of external support and stability incorporate all sorts of incompatible structural elements" (Meyer and Rowan, 1977: 356). In order to cope with these incompatible structural elements, which may lead to internal and boundary-spanning contingencies (Meyer and Rowan, 1977: 353), organizations rely on loose coupling between standardized, legitimate external practices and formal structures "frontstage" and practical considerations and internal organizational behavior "backstage" (Meyer and Rowan, 1977: 357; DiMaggio and Powell, 1983: 155). Orten and Weick (1990) discuss a number of ways in which loose coupling has an impact on organizational performance. For

159 According to Mahoney and Thelen (2010b: 14), "where we expect incremental institutional change is precisely in the 'gaps' or 'soft spots' between the rule and its interpretation or the rule and its enforcement."

160 The concept of ambiguity not only applies to the regulative dimension of institutions but also to (cultural) norms and ideas (see Jackson, 2005a: 249).

example, it is often seen as creating persistence (e.g., in terms of a particular organization's reduced responsiveness to environmental changes) (Orton and Weick, 1990: 213). Another, related example is that loose coupling can have a buffering effect. That is, loose coupling may reduce conflicts within organizational fields and, hence, isolate problems and prevent their spread (Orton and Weick, 1990: 213, 215). While tight coupling usually occurs when an issue supports the status quo, uncoupling is more likely when an issue challenges the status quo (Lutz, 1982: 668). Yet, it is also important to note that loose coupling is not always used strategically for "rational" organizational purposes, but is sometimes also applied due to organizational routines or because of perceived appropriateness (see, e.g., Hasse and Krücken, 2005: 18–19).

These two short theoretical considerations show that ambiguity and loose coupling are distinct but closely related concepts. For example, Weick (1976: 13) speaks of the "ambiguity of loosely coupled structures," and the organizational/sociological institutionalists Meyer and Rowan (1977: 358) refer directly to "goal ambiguity" as one of organizations' strategies for coping with uncertainty on the ground while maintaining formal structure at the surface: "Goals are made ambiguous or vacuous, and categorical ends are substituted for technical ends. Hospitals treat, not cure, patients. Schools produce students, not learning" (Meyer and Rowan, 1977: 357).

In the following illustrations, I show that a certain degree of ambiguity in the institutional environment of hybrid organizational forms facilitates loose coupling. This loose coupling, in turn, can help to buffer some of the incoherence between the hybrid organizational form and specific non-hybrid organizational forms.

The Cases of Germany, Austria, and Switzerland Revisited

This section synthesizes key findings from the three country-specific chapters to build a stylized picture of hybridization in Germany, Austria, and Switzerland with reference to the four processes related to hybridization outlined in the previous section. Process A describes Phase I (Genesis), while processes B, C, and D belong to Phase II (Further Evolution):

A. Conversion, blending, and layering
B. Persistence of the institutional divide between VET and HE
C. Frictions between hybrid and non-hybrid organizational forms
D. Ambiguity and loose coupling enable buffering

Germany: Dual Studies

(A) In Germany, the dual study programs convert and blend HE elements with the dual apprenticeship principle. For example, the HE institute and the

participating firm are responsible for coordinating the study program. However, the state and the trade unions are not involved in the same way and to the same extent as they are in classic dual apprenticeship training. The hybrid dual study programs signify a layer located in a grey area between VET and HE.

(B) Nevertheless, while greater institutional permeability between VET and HE is promoted within dual study programs (e.g., as they transfer the dual principle to HE), the educational schism continues to exist at the system level. Thus, for instance, the classic dual apprenticeship training still remains largely isolated from the world of HE.[161]

(C) Yet, the co-existence of dual studies and dual apprenticeship training leads to a functional overlap in those regulated occupations that are offered both in the dual apprenticeship training system as well as in dual study programs. This indicates a certain amount of friction at the system level considering that individuals with the same entrance qualification (i.e., higher education entrance qualification) end up in programs at different educational levels (i.e., upper-secondary level in the case of dual apprenticeship training and post-secondary level in the case of dual studies). Furthermore, some overlap occurs at the post-secondary level given that universities of applied sciences have started to offer dual study programs. This means that universities of applied sciences are now offering two different types of programs: the traditional non-dual study programs and dual studies, both of which are intended to offer practically oriented academic training without clear demarcations between the two types.

(D) These examples of functional overlaps and potential frictions in the relationship between dual studies and dual apprenticeship training and that between dual studies and the traditional programs at universities of applied sciences is relatively easy to detect at the analytical level. Yet, in practice the actors and regulatory authorities have largely been unconcerned with or unaware of the ambiguities and loose coupling of institutional structures that help to smooth over these frictions.

Austria: BHS

(A) In Austria the BHS converts key institutional elements from the fields of VET and academic education and blends them within a hybrid organizational form. An example of this is the possibility of acquiring the double qualification *Reife-* and *Diplomprüfung*, and in some cases additionally the special title of *Ingenieur*. Therefore, the genesis and expansion of the BHS represents layering at the nexus of VET and HE.

161 This is not to say that there are no attempts to build linkages from dual apprenticeship to HE (see Section 3.3.4).

(B) Chapter 7 described how the expansion of the BHS signified a loss of esteem for dual apprenticeships relative to school-based VET. Yet, this did not lead to the breakdown of the traditional organizational form of dual apprenticeship. Since the 1990s, the Austrian social partners have worked together to preserve the status of dual apprenticeship by introducing institutional reforms such as the vocational baccalaureate and the *Lehre mit Matura*. That is, despite the pressure the BHS is exerting on the dual apprenticeship training system, the latter organizational form has been maintained and remains significant.

(C) When the universities of applied sciences were established in the 1990s, in the wake of Austria's accession to the EU, they were not placed in the VET field but in the HE field. However, there is a significant functional overlap between the BHS and these relatively new universities of applied sciences. For example, they can both lead to similar positions in the labor market, even though the BHSs are formally located within upper-secondary education and the universities of applied sciences within post-secondary education.

(D) Although the universities of applied sciences are powerful new players within the Austrian skill formation system, this has not initially led to major frictions between them and the BHS (or the collapse of the hybrid BHS) because the two organizational forms are to some extent decoupled from each other. In fact, the creation of the universities of applied sciences was only able to go forward precisely because of this loose coupling, since the stakeholders of the BHS insisted on their special status being maintained. The institutional environment in Austria is sufficiently ambiguous to enable this kind of loose coupling. As regards labor market prospects, many employers do not mind the formal level difference between graduates from the BHS and Bachelor graduates from universities of applied sciences, and often open the same job positions to both groups. Moreover, the state is willing to finance both organizational forms.

Switzerland: Organizational Configuration of Universities of Applied Sciences Based on Dual Apprenticeship Training and Vocational Baccalaureate (FHIVET)

(A) The Swiss universities of applied sciences resulted from the conversion of some of the most prestigious institutes of higher VET into universities of applied sciences. In this process, traditional institutional practices in these institutes were blended with institutional elements from the field of HE. Thus, for example, curricular elements from the old higher VET programs were sometimes copied into the new universities of applied sciences.

(B) In Switzerland, dual apprenticeship constitutes an essential part of the Swiss hybrid configuration (FHIVET). This hybrid configuration forges an institutionally designed link between VET and HE in the form of universi-

ties of applied sciences. However, not all institutes of higher VET were upgraded (i.e., there are still colleges of higher vocational education and training (*höhere Fachschulen*)). Thus, the Swiss higher VET sector (ISCED 5B) remains significant in Switzerland, for example due to the popular preparation programs for the exams of higher VET (*höhere Fach- und Berufsprüfungen*).

(C) The new hybrid institutional configuration – leading from a dual apprenticeship with vocational baccalaureate to the universities of applied sciences – is carefully designed and integrated into the national skill formation system. However, the co-existence of the new universities of applied sciences and the significant number of organizations remaining in higher VET indicates that there is a potential field of conflict, for instance, as both are chiefly targeted at people who have completed initial VET. However, the universities of applied sciences are publicly funded, while the programs of higher VET are mainly funded by student fees.

(D) This conflict was initially played down as the new universities of applied sciences and the sector of higher VET were largely decoupled from each other. In other words, it was possible to ignore the incoherence "on the ground" due to a sufficiently ambiguous environment that allowed for the decoupling of these two system elements. For instance, despite the ambiguity regarding the purposes of these organizational forms, the organizations belonging to the *Organisationen der Arbeitswelt* (OdA) became involved in the running of the universities of applied sciences while simultaneously sustaining their original involvement in higher VET.

These short accounts of the German, Austrian, and Swiss cases show that in all three countries the genesis and further evolution of hybridization at the nexus of VET and HE is linked to a set of four general processes (A–D; see also Chapter 10 for a discussion). In the final part of this chapter I compare the impact of Europeanization processes on the evolution of the hybrid organizational forms in Germany, Austria, and Switzerland – and, in this context, also on the general processes related to hybridization described above.

9.6 Exploring the Impact of Current Europeanization Processes

European integration processes since World War II had a strong influence on the education systems of Austria, Germany, and Switzerland long before the Bologna and Copenhagen processes (see Chapter 5 on Europeanization and Chapters 6–8). However, the country-specific chapters showed that current European education policies have had no direct role in the genesis of the

hybrid organizational forms in the DACH countries. Rather, European and international influences are part of a range of exogenous and endogenous factors that define the scope conditions for the further evolution of hybridization at the nexus of VET and HE. In the following I explore in more detail the impact of current Europeanization processes (i.e., Bologna and Copenhagen) on the dual study programs in Germany, the BHS in Austria, and the FHIVET configuration in Switzerland. The discussion is divided into three parts, each of which covers a theme that has proven to be central to an understanding of the Bologna process and the Copenhagen process in the three country chapters: Firstly, I summarize key elements in these processes that are generally challenging for the DACH countries considering key institutional features of their skill formation systems. Secondly, I point to some "unintended" characteristics of the Bologna process and the Copenhagen process that affect their potential to facilitate the envisaged educational reforms in the member countries. Finally, I compare how the introduction of Bachelor degrees and the EQF influence hybridization in Germany, Austria, and Switzerland.

9.6.1 Three "Europeanization Challenges" for Skill Formation in the DACH Countries

This first section discerns three "Europeanization challenges" to skill formation in the DACH countries. This section does not focus explicitly on the hybrid organizational forms that are otherwise the key theme in this book. Rather, it describes elements in the Bologna and Copenhagen processes that are generally challenging for the traditional mode of skill formation in the DACH countries. However, whenever applicable the impact of these Europeanization challenges on the hybrid organizational forms will be mentioned.

In Chapter 5 I have argued that the introduction of the two-tiered degree structure and the creation of the European Qualification Framework (EQF) are central tools in the Bologna process and Copenhagen process, respectively. Based on the analysis in the country chapters, I argue here that key characteristics that underwrite the two-tiered degree structure and the EQF are in conflict with the traditional institutional configuration in the DACH countries, namely the European foci on (1) employability, (2) learning outcomes, and, more generally, (3) a liberal market arrangement in skill formation. In contrast to these European foci, skill formation in the DACH countries has traditionally relied more on (1) the vocational principle, (2) learning inputs, and (3) collective coordination. In view of the findings from the three country cases studies, below I sketch these tensions between the current European processes and the historical status-quo in the DACH countries. The EQF serves as the major point of illustration.

Employability instead of the Vocational Principle

The vocational principle promotes more narrowly defined occupational skills than the somewhat more broadly defined concept of employability. Employability can be defined as "the capability to gain initial employment, maintain employment and obtain new employment if required" (Hillage and Pollard, 1998: 1). Kraus (2008: 77) observes that "[a]s the traditional earning schema in an English-speaking context, employability clearly differs from the concept of vocation in Germany and has been developed in accordance with different structures in the education system, labour market and the welfare state." The first national qualification frameworks (NQF) were designed for the specific historical and systemic context in Anglophone countries (see Allais, Young, and Raffe, 2009: 2). In the UK, for example, the development of qualification frameworks in 1980s was part of a wider marketization in education (Cort, 2010: 311) and, as such, characterized by a quasi-market logic organized around standards for certification (Verdier, 2009: 10). Thus, originally, qualification frameworks were designed as a means to cope with an education landscape that is far less standardized than that in Germany (Interview DE3), Austria, or Switzerland. The development of the EQF was inspired by these first NQFs in England, Scotland, and New Zealand (all of which are liberal market economies). However, Chapters 6–8 showed that the DACH countries have, nevertheless, signed up to the EQF, for example to position their national qualifications at the European level. Interestingly, the European focus on employability represents less of a challenge for the hybrids described here. As these hybrids combine occupationally specific skills with more general academic training, their qualifications fit more smoothly into the European employability scheme than traditional dual apprenticeship training.

Learning Outcomes instead of Learning Inputs

The professionalism that individuals acquire in dual apprenticeship training is in part a result of their early integration into a community of practitioners, which, however, is not an element prominent in the EQF or German Qualification Framework (DQR) (Drexel, 2005; Banscherus, Gulbins, Himpele et al., 2009: 57).[162] The EQF's focus on (formal, informal, and non-formal) learning outcomes challenges the vocational principle, which emphasizes inputs and processes of training (in the workplace) (Powell and Trampusch, 2012: 285). The EQF suggests replacing trust in organizational forms with trust in "outcomes" (Allais, Young, and Raffe, 2009: 3).[163] However, Allais, Raffe, and Young (2009: 3) argue that "as outcomes themselves are a form of

162 The same can be said for dual apprenticeship training in Austria and Switzerland.

163 However, qualification frameworks and learning outcomes also represent a (specific) form of organization.

'proxy' for what people know or can do, the institutional basis of trust is inescapable and that at least implicitly people will continue to rely on institutions".[164] In any case, the shift to learning outcomes contrasts with the common practice in Germany, Austria, and Switzerland, which have traditionally relied on learning inputs such as type of institution or study duration (see also European Commission, 2011c; Hammer, 2011 on Austria). Thus, it is perhaps not surprising that the implementation of the EQF (an outcome-oriented scheme) to education systems that are traditionally input-oriented is leading to some unintended results. For example, Switzerland has been hesitant about implementing this framework and Austria has opted to split the EQF into two parts (VET and HE) after level 6. In Germany, after tough negotiations between VET and HE stakeholders, it was decided in 2012 that qualifications from general schooling will not initially be allocated to the DQR (BMBF, 2012b). More generally, for educational organizations in the DACH countries, including the hybrid organizational forms, the paradigm shift towards learning outcomes manifests itself as a long and winding road.

Liberal Market Arrangements instead of Collectivism

Rasmussen, Lynch, Brine et al. (2009: 159) observe that "European policies in the areas of welfare and education are marked by a fundamental tension between the pursuit of capitalist growth on one hand, the pursuit of social justice and equality on the other." In this context, it is crucial to take into account that current European activities in the fields of VET as well as HE and research are intertwined with the Lisbon Strategy (see, e.g., Hanf, Luomi-Messerer, and Rein, 2009), which aims to direct these fields towards the ideals of "efficient" human capital investment and "competitive" knowledge-based economic growth (see, e.g., Bruno, 2008). The Lisbon Strategy, devised by the European Council in 2000, was influenced by the perceived pressure to catch up with the knowledge-based growth of the "new economy" in the United States with its liberal market institutions (see Bruno, 2008; Watson, 2001).[165] Moreover, one of the principal goals of EU VET

164 In this quote the term "institutions" refers to "educational organizations."

165 However, as Verdier (2009) notes, the Lisbon Strategy was not only influenced by a liberal market model but also inspired by "the macro-economic policy of the Scandinavian countries aimed at combining competitiveness through innovation in products with high added value, collective investments in education and continuing training and a high degree of social protection" (Verdier, 2009: 2; see also Barbier, 2004). This latter goal is expressed in the vision of a European education and training system that is embedded in an active employment policy and a welfare state that promotes both competitiveness of and social cohesion in a knowledge- and innovation-driven European economy (see Lisbon European Council, 2000). However, a further exploration of whether and to what extent the European vision of an active lifelong learning regime is in conflict with the institutional set-up in the DACH countries is beyond the scope of this book. Further research could look at this ques-

policy is to open up educational markets (Drexel, 2005; Trampusch, 2008: 603). Private providers of educational programs in particular are very interested in European mechanisms for ensuring quality (to create trust) to facilitate market exchanges (see Cort, 2010: 306). Arguably, "the EQF is not neutral but will influence national education policies in the direction of a higher degree of standardization and commodification of education and an introduction of market principles into the education sectors" (Cort, 2010: 307).[166] The European trend towards a more market-oriented skill regime presents a significant challenge to Germany, Austria, and Switzerland as countries of collective skill formation. In as far as the hybrid organizational forms in the DACH countries build on traditional collective elements (e.g., in terms of educational governance), this trend is likely to be to the detriment of their hybrid status.

The three paragraphs above mostly refer to the EQF. However, a similar case can be made for the two-tiered degree structure (which is the traditional configuration in liberal market economies like the US and the UK). For example, the new Bachelor and Master degrees use ECTS credits to measure learning outcomes and the Bachelor degree is typically aimed at employability as it is supposed to qualify students for labor market entry. Section 9.6.3 explores the impact of the introduction of this new degree cycle, as well as the EQF, on the hybrid organizational forms. A more general outcome of this section is that, while the Europeanization processes claim to be neutral policy tools, it turns out that policy-makers are, nevertheless, promoting a specific educational ideology. Due to the voluntary character of both the Bologna and the Copenhagen processes, they represent an ideational and normative challenge to the DACH countries rather than directly regulative pressure.[167] In addition, they lead to a number of unintended, partly paradoxical consequences (see Hartmann and Honneth, 2006 on the concept of paradoxes in modern capitalism). This paradoxical aspect of Europeanization will be further elaborated below with reference to hybridization. However, before that, I summarize and discuss some differences between the Bologna process and the Copenhagen process that bear crucially on the impact of European educational policies on the DACH countries in general.

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tion from the point of view of welfare state research (see, e.g., Pechar and Lesley, 2011; Willemse and Beer, 2012 on different worlds of educational welfare states).

166 In this quote the term "standardization" refers mainly to European-level standardization.

167 With regard to the actual regulative governance of national education systems, the current Europeanization processes can be characterized as "weakly constraining" (Musselin, 2009: 5; see also Powell, Bernhard, and Graf, 2012b).

9.6.2 Structural Differences between the Bologna Process and the Copenhagen Process

The analysis of Europeanization in this study is complicated by two related factors. Firstly, given that VET and HE are differently embedded within the education/economy nexus as well as within the international realm, they react to Europeanization processes in different ways and at a different pace. Secondly, the relative timing of and the relationship between Bologna and Copenhagen are decisive for their respective impact on the national education systems.

Prior Degree of Internationalization

Already prior to Bologna and Copenhagen, the internationalization of HE was further developed than that of VET. At a global level, the university as an organizational form represents a relatively similar model in comparison to the different national models of VET. This greater compatibility between universities in different world regions is, for example, reflected in the increasing number of internationally mobile students, with an expected fourfold increase in the number of international students between 2000 and 2025 up to 7.2 million worldwide (Böhm, Davis, Meares et al., 2002: 3). Trade in HE services has become a "billion dollar industry" (Knight, 2002: 2; Qiang, 2003). Moreover, HE institutes, which have been granted more managerial autonomy in recent years, are themselves organizational actors that are actively involved in the process of internationalization. While HE systems are also embedded in national models of capitalism (see Graf, 2009), this coupling appears to be even tighter in the case of VET. According to Baethge (2006b: 28), national VET systems are very closely linked to the national labor market and, in this sense, to the respective national economic structure and political traditions. This suggests that it is more difficult to envisage what an overarching European model could look like for VET than for HE.

Timing of and Relationship between Bologna and Copenhagen

The Bologna process also has the advantage that it was introduced three years earlier than the Copenhagen process. The Bologna process enjoys a first and fast mover advantage and to some extent defines the "terms of the game" of European educational policies, as it served as an initial source of inspiration for the launch of the Copenhagen process (see also theoretical remarks on the relevance of the relative sequencing of events in Chapter 3). As the Copenhagen process is struggling to develop the same momentum as the Bologna process, some VET stakeholders are even starting to use the Bologna processes as a reference frame for Europeanization in the field of education (even though the Bologna process is attuned to academic and not so much to

vocational learning). At the same time, the Bologna process and the Copenhagen process are formally rather independent processes and not genuinely coordinated. Interestingly, this lack of coordination is sometimes exploited by national HE stakeholders to fend off undesirable demands from the VET sector with regard to the new European standards. For example, the Dublin descriptors, which define the European Bachelor, Master, and PhD cycles (Joint Quality Initiative, 2004), were introduced shortly before the EQF was developed. As a result, HE stakeholders have sometimes argued that HE already has its European reference standards and, hence, does not need to be re-evaluated within the context of the EQF. These HE stakeholders legitimize their lack of cooperation with regard to the EQF process with the argument that the autonomy of the Bologna process has to be safeguarded (see especially Chapter 7).

In combination, these two factors ("prior degree of internationalization" and "timing and relationship between Bologna and Copenhagen") imply that the Bologna process has an advantage over the Copenhagen process in terms of the conditions for its successful implementation: Not only is VET more static in the first place with regard to its internationalization, but the Copenhagen process also lags behind the Bologna process. This also implies that it is difficult to attune the Bologna and Copenhagen processes to each other, even if recent efforts by policy-makers in Brussels point towards a more integrated approach to the organizational fields of VET and HE (see European Commission, 2010 on the "Europe 2020" strategy).

Finally, the country-specific effect of the Bologna process and the Copenhagen process also depends on the specific historical relation of a country to European developments and the EU (Differential Impact of Europeanization Hypothesis I). As the Swiss case shows, the impact of European educational policies reaches beyond the aspect of membership to the EU. Switzerland has been a poster child as far as implementation of the Bologna process is concerned. However, it only has the status of observer country in the Copenhagen process. Given the specificities and dominance of its dual apprenticeship training system as well as a political culture of carefully considering whether it joins European initiatives, Switzerland has been more hesitant about introducing an NQF than Austria and Germany (see Chapters 6–8 for details).

This section has explored two general structural issues around the Europeanization of VET and HE, namely (a) the prior degree of internationalization of VET and HE and (b) the timing of and the relationship between Bologna and Copenhagen. The relevance of these issues for hybridization in the DACH countries is further discussed in the conclusion. Based on the country case studies, the following and final part of the comparative chapter

explores in more detail the kind of influence that the Bologna and Copenhagen processes have on the process of hybridization in the DACH countries.

9.6.3 The Paradoxical Impact of Europeanization on Hybrid Organizational Forms

In this section I point to some paradoxes that seem to accompany the introduction of Bachelor degrees and of the EQF in the DACH countries. However, these paradoxes should not be overstated given that Europeanization is but one of the many forces that shape contemporary institutional change in Germany, Austria, and Switzerland. Thus, the false impression should not arise that the fate of hybridization is entirely decided by the outcome of these Europeanization processes. Rather this final part of the comparative chapter illustrates general tendencies and provides some policy recommendations with regard to the handling of European educational policies in the concluding chapter. Firstly, I make the point that Europeanization does to some extent reduce the scope for ambiguities and routines of loose coupling. Secondly, the role of the location of the respective hybrid organizational form within the education system matters with regard to the impact of Europeanization. In this context, thirdly, I compare the cases of Germany, Austria, and Switzerland. Fourthly, I raise the question whether current Europeanization processes tend to strengthen or weaken the institutional permeability that the hybrid organizational forms represent.

Europeanization Reduces Scope for Ambiguities and for Routines of Loose Coupling

The current Europeanization processes push standards for the categorization of different kinds of educational programs and qualifications throughout Europe – to create greater transparency in European skill formation. Yet, the key tools of Europeanization, the introduction of Bachelor and Master degrees and the EQF, fail to acknowledge the organizational specificities of hybrids. The comparison of the three country cases below shows that one of the main effects of the current Europeanization processes is that they reduce the scope for ambiguities and loose coupling, and, with that, for two mechanisms that are essential for maintaining hybridity.

Location of Hybrid Organizational Form Matters with regard to the Impact of Europeanization

Chapters 6–8 indicated that the location of the specific hybrid organizational form within the national education system plays a significant role in determining the dynamics of hybridization. All three hybrids span the boundary

between upper- and post-secondary levels (Hybridity Criterion II). However, each of them calls either the upper- or the post-secondary level its home domain. The core location of the Austrian BHS is at upper-secondary level (VET), integrating elements of post-secondary HE. In contrast, the core location of the German dual study programs as well as the Swiss hybrid configuration (due to the Swiss universities of applied sciences) is the post-secondary level (HE), although they also integrate the upper-secondary level (VET). Given that the core location of the German and Swiss cases is the post-secondary level (HE), the Bologna process – in the form of the introduction of the Bachelor degree at post-secondary HE level – matters more than the Copenhagen process in these two cases. In the case of the Austrian BHS, it is rather the Copenhagen process in the form of the EQF – which is intended to cover all qualifications within an education system – that has the greatest impact on hybridity (see Table 30).

Table 30: Location of hybrid organizational forms in Germany, Austria, and Switzerland

	Germany Dual studies	**Austria** BHS	**Switzerland** FHIVET
Core location of hybrid in terms of educational level	Post-secondary level (HE) integrating upper-secondary level (VET)	Upper-secondary level (VET) integrating post-secondary level (HE)	Post-secondary level (HE) integrating upper-secondary level (VET)
Europeanization tool with greatest impact on hybrid	Two-cycle degree structure (Bologna process)	EQF (Copenhagen process)	Two-cycle degree structure (Bologna process)

Source: Author's illustration

However, this is not to say that the EQF does not also have some influence on the hybrid organizational forms in Germany or Switzerland, or that the Bologna process does not have an indirect (unintended) influence on VET, or that the Copenhagen process does not have any impact on HE. Rather, Table 30 shows which Europeanization tool is currently having the greatest direct impact on the hybrid organizational forms in Germany, Austria, and Switzerland respectively.

Germany: The Introduction of Bachelor Degrees in Dual Study Programs has Increased Competition with Dual Apprenticeship Training

The introduction of Bachelor degrees to HE programs was a vehicle for vocational academies to further establish themselves within the HE sector. More generally, the dual study programs took up the Bachelor degrees rather quickly and are not negatively affected by the Bologna process in terms of their prestige. In fact, in terms of their academic reputation they (that is vocational academies in particular) became more similar to the traditional HE

organizations. In this sense, the Europeanization processes further legitimize dual study programs as belonging to HE. Yet, this drift towards traditional HE is not necessarily beneficial to institutional permeability. More precisely, due to their approximating universities and universities of applied sciences, the dual study programs have been losing some of their connections to VET at upper-secondary level. While dual study programs are located in a grey area between VET and HE, with sufficient scope for the creative blending of institutional elements from both organizational fields, the implementation of the Bachelor standard has reduced this scope to some extent. For example, dual study programs now go through an accreditation procedure like other Bachelor programs. Furthermore, the Bachelor degree has affected the relationship between HE and dual apprenticeship training as the Bachelor programs are typically shorter than the previous *Diplom* or *Magister* programs. As the dual study programs now last for three to four years (similar to dual apprenticeship training, which usually lasts three years) and as high-end dual apprenticeship programs and dual study programs both compete for those who have an *Abitur* as their key target group (see Section 6.2 for details), these dynamics – which are facilitated through the Bologna process – intensify the structural friction or conflict between these organizational forms.

Austria: Qualification Framework Reduces Scope for Ambiguity and Loose Coupling

The hybrid status of the BHS relies on the way in which it overcomes traditional institutional barriers between VET and HE as well as between upper-secondary VET and post-secondary HE. This becomes possible due to a certain degree of informality and scope for ambiguities in its institutional environment (see Section 7.3.3). However, the implementation of the EQF tends to diminish the scope for such ambiguities within the institutional environment. In fact, the EQF tends to be interpreted as a rigid classificatory matrix in the DACH countries, which contradicts the nature of hybrid organizational forms. The NQF consultation process in Austria exerts regulative pressure to formalize the qualifications of the BHS but does not allow for adequately mapping the overlaps between the different qualification levels they represent. In other words, the NQF reduces the previously available degrees of freedom that allowed the hybrid BHS to flourish, despite the institutional divide between VET and HE. For instance, the NQF has enforced the competition between BHSs and universities of applied sciences. The result is that the BHSs are likely to lose some of their attractiveness as they are indirectly "downgraded" relative to the Austrian universities of applied sciences. In turn, this is detrimental to the degree of institutional permeability that BHSs can represent due to their hybrid status.

Switzerland: The Bologna Process is Destabilizing the Balance between Swiss Universities of Applied Sciences and Higher VET

Through the universities of applied sciences the Swiss hybrid organizational configuration is directly linked to the HE level. As a consequence, this hybrid configuration can benefit from the dynamic that is unfolding around the Bologna process in Europe. One major advantage of being part of the Bologna degree cycles is that these are widely implemented in Europe and, hence, the Swiss universities of applied sciences – unlike their predecessors in higher VET – are more visible or easily recognized in the international realm (e.g., in terms of the validity of their credentials on foreign labor markets but also with regard to increasing international student mobility). Yet, the dynamic of the Bologna process also unleashes a conflict potential in the relationship between universities of applied sciences and higher VET in Switzerland. A major problem for Swiss higher VET is that its qualifications are not well known outside Switzerland. Thus, the stakeholders in the Swiss higher VET sector are facing a situation in which those who can choose between a higher VET qualification and a Bachelor degree from a university of applied sciences realize that the latter is better recognized internationally – even if the quality of the two types of programs is often perceived as equivalent. The fragile balance between the Swiss universities of applied sciences and the Swiss higher VET sector is built on the decoupling of these two fields. However, the Bologna process has destabilized this balance as it has replaced the ambiguous relationship between Swiss universities of applied sciences and higher VET by a more competitive and conflictual one. Furthermore, the Bologna process facilitates academic drift to some extent, pushing the Swiss universities of applied sciences, which are designed to be firmly rooted in the Swiss VET sector, into the institutional logic of HE. Thus, the Swiss case also illustrates the lack of momentum in the Copenhagen process. In order to support the Swiss claim that VET qualifications are "*andersartig, aber gleichwertig*" (different but equal) in relation to academic qualifications, the Copenhagen process, which is more sensible to the specificities of vocational training, would have to create a similar dynamic as the Bologna process. However, as the Copenhagen process has not yet matched the dynamic of the Bologna process, and as there are doubts whether the development of the NQF will sufficiently promote the equivalence of VET and HE qualifications, some Swiss VET stakeholders now even lobby for the introduction of a "Bachelor professional" certificate for higher VET qualifications (see also Section 8.3.3).

In the following I summarize some of the key findings regarding the impact of current Europeanization processes on the hybrid organizational forms. In this context, the question of the link between institutional permeability, hybridization, and Europeanization is brought to the fore once again.

Impact on Organization vs. Impact on Institutional Permeability

Table 31 shows three distinct but related dimensions in which the Bologna process and the Copenhagen process matter in regard to hybridization. Here, I distinguish between the impact of Europeanization (A) on the organizational form as such, (B.) on the degree of hybridity and institutional permeability, and (C) on the potential friction between the hybrid organizational forms and closely related non-hybrid organizational forms.

Table 31: Impact of current Europeanization processes on hybrid organizational forms

Impact on…	**Germany** Dual studies	**Austria** BHS	**Switzerland** FHIVET
(A) hybrid organizational form	Advantageous (→ upgrading)	Disadvantageous (→ downgrading)	Advantageous (→ upgrading)
(B) degree of institutional permeability that hybrid represents	Disadvantageous (→ academic drift)	Disadvantageous (→ increased competition with HE)	Disadvantageous (→ academic drift)
(C) potential friction with closely related organization	Unleashes conflict between dual studies and high-level dual apprenticeship programs	Unleashes conflict between BHSs and Austrian universities of applied sciences	Unleashes conflict between FHIVET configuration and higher VET

Source: Author's illustration

(A) The Bologna process and the Copenhagen process signify a drift in the institutional environment of skill formation that affects the hybrid organizational forms differently depending on their core location (see Table 30). While the Europeanization processes tend to have unfavorable consequences for the organizational maintenance of Austrian BHSs, the dual study programs and the Swiss universities of applied sciences seem to have benefited from these processes. Here, it is especially relevant that the German and Swiss hybrids are directly linked to the Bachelor cycle. In contrast, the BHSs in Austria are more affected by the EQF, which, however, leads to increased organizational competition between universities of applied sciences and BHSs and a relative downgrading of the latter.

(B) In all three cases the current Europeanization processes – or at least their national interpretations – have the unintended consequence of reducing the scope for ambiguities and loose coupling as a condition for hybridization at the nexus of VET and HE in the DACH countries. In this way, the national interpretations of both the Bologna and Copenhagen processes reinforce the divide between upper-secondary and post-secondary education (see Hybridity Criterion II) and also lead to academic drift of the hybrids in the case of

Germany and Switzerland (see Hybridity Criterion I). This development to some extent reduces the potential of the three hybrid organizational forms to increase institutional permeability.

(C) What contributes to this dynamic is that both the Bologna process and the Copenhagen process create an environment that drives the competing organizational forms further apart. This latter point refers mainly to the relationship between BHSs and universities of applied sciences in the Austrian case, the relationship between dual studies and high-level dual apprenticeship programs (e.g., those in that many people with an *Abitur* participate) in Germany, and that of the Swiss universities of applied sciences and higher VET in Switzerland.

However, it is still too early to predict the ultimate impact of the current Europeanization processes on hybridization between VET and HE. As we have seen in the case of Germany and Switzerland, the impact of contemporary Europeanization processes is twofold: it is beneficial for the hybrid organization as such but detrimental to its institutional permeability potential. However, despite such tendencies, in all three countries the qualities of the respective hybrid organizations are still firmly established within the respective national skill formation systems. Thus, for example, the Bologna-induced academic drift represents a tendency, but not yet an absolute change, in the qualities of the hybrid organizational forms. While this last section has focused on the paradoxical impact of current Europeanization processes, it should be noted that Europeanization is but one factor shaping the evolution of hybridization. Given that the hybridization between VET and HE in the DACH countries builds on long-term institutionalization, the hybrid organizational forms are gradually adapting to contemporary processes of Europeanization rather than being transformed or displaced.

These and other central findings from the empirical chapters are synthesized in the following conclusion, which is organized around the research questions formulated in the introduction as well as the hypotheses developed in Chapter 3.

10. CONCLUSIONS

Germany, Austria, and Switzerland are part of the collective skill system cluster and renowned for their extensive dual apprenticeship training systems at upper-secondary level. However, these dual apprenticeship training systems also go hand in hand with a historically evolved strong institutional divide between the vocational education and training system (VET) and the higher education (HE) system. This institutional division between VET and HE, called the "educational schism" and stemming from the pre-industrial era (Baethge, 2006a on the German case), has become increasingly contested, for example due to the rise in the level of average skill requirements in the service economy and knowledge society as well as due to shifts in young peoples' educational aspirations. In addition, current European educational policies demand greater permeability between VET and HE. Broadly speaking, this book has addressed the question of whether the relatively similar systems in Germany, Austria, and Switzerland deal with such challenges in a similar way, and what the implications are for institutional permeability between VET and HE.

The main result of the process tracing from roughly the 1960s to 2012 was that all three countries rely in part on hybridization – a specific combination of institutional elements from the two organizational fields of VET and HE – to introduce gradual institutional reform within their bifurcated skill formation systems. More precisely, hybridization has led to the dual study programs in Germany, the *berufsbildende höhere Schule* (BHS, higher vocational school with higher education entrance qualification) in Austria, and the universities of applied sciences that build on dual apprenticeship training and a vocational baccalaureate in Switzerland (FHIVET). Due to their hybrid characteristics, these organizational forms help to address a number of socio-economic developments – such as rising skill requirements – which challenge the institutional division between VET and HE in the DACH countries.

How did it come to hybridization at the nexus of VET and HE in Germany, Austria, and Switzerland and how have the respective hybrid organizational forms developed since their genesis?

In Part I of Chapter 3, I sketched three institutional perspectives in order to explore the divide between VET and HE in Germany, Austria, and Switzerland: a power explanation related to status groups, a perspective that sees education as a legitimation system, and a functional explanation derived from the Varieties of Capitalism (VoC) approach. From these points of view, at first sight there seemed to be little prospect for substantial institutional change in the relationship between VET and HE (see Stasis Hypotheses I–

III). However, in Part II of Chapter 3 I combined historical institutionalism and organizational institutionalism (and, with that, power, legitimation, functional explanations for institutional change) to account for the processes of hybridization that were observed despite the prevailing separating forces between VET and HE (Hybridization Hypothesis). Furthermore, I developed a number of more specific hypothetical scenarios for the genesis and further evolution of the hybrid organizational forms (see Section 3.3.4).

At a more general level, the combination of historical institutionalism and organizational institutionalism – on which this study has largely been based – offers a novel and instructive perspective on the genesis and evolution of new organizational forms in modern education systems. Historical institutionalism is useful for developing hypotheses with regard to power explanations and to some extent functional explanations for institutional change, while organizational institutionalism is especially suitable when it comes to the development of expectations with regard to the legitimation explanation for institutional change. While historical institutionalism is mostly concerned with the regulative and normative dimensions of institutions, organizational institutionalism also focuses on the cultural-cognitive dimension (see Chapter 3). These differences imply that historical institutionalism and organizational institutionalism each have specific strengths in uncovering processes of institutional change in VET and HE systems. Furthermore, this combination helps to integrate a strand of literature that has focused more on VET, namely historical institutionalism, with one that has been more concerned with HE, namely organizational institutionalism (see Chapter 2). However, while historical institutionalism and organizational institutionalism are both modes within the "new institutionalism," they do not share a single set of epistemological and ontological assumptions. Therefore, it is challenging to establish a single explanatory framework based on a genuine integration of these two strands in the "new institutionalism." That is, while some of the hypotheses developed in Chapter 3 rely on an integration of both strands of institutional thought (e.g., the Hybridization Hypothesis), others only refer to one of the two strands (see Appendix 11.5.1 for an overview). The latter case refers, for instance, to the Country Differences Hypotheses, which either rely on historical or on organizational institutionalism. Further theoretical work could build on the findings presented here to develop a catalogue of criteria for the successful combined application of both strands.

In order to empirically explore the hypotheses mentioned above, I carried out process analyses based primarily on several dozen expert interviews of key stakeholders in the three countries, as well as a document analysis. This process tracing yielded the following results: In terms of a characterization of the genesis of the hybrid organizational forms, the scenario of "blended worlds" – in which the hybrid is produced through the mutual approximation

of the distinct institutional logics of VET and HE – is the dominant pattern in Germany, Austria, and Switzerland (Genesis Scenario II). Through converting and combining elements from both VET and HE, the hybrid organizational forms represent a layer growing between these two organizational fields. For example, the hybrid organizational forms reflect and reproduce the vocational principle as one of the key characteristics of VET in the DACH countries but also integrate elements of academic learning to overcome too narrowly defined occupational categories. More generally, the hybrid organizational forms build on a significant degree of parity of esteem between VET and HE. Thus, a central precondition for the genesis of these hybrid organizational forms is the existence of VET and HE fields that both enjoy a high reputation within the national context (as is the case in the DACH countries). Notably, the institutional relationship between VET and HE is configured differently in other major systems of skill formation. For example, in France (where school-based VET is more prominent) or in Anglophone countries (in which the focus of VET is more on "learning on the job") the reputation and quantitative significance of VET relative to HE is not as high as in Germany, Austria, and Switzerland. This, in turn, helps us to understand why the hybrid organizational forms have arisen in the context of the DACH countries.

The further development of the hybrid organizational forms points to the scenario of "coexisting worlds," as these organizational forms occupy a niche between the traditional organizational fields of VET and HE (Evolution Scenario IV). Thus, the hybrid organizational forms co-exist with the traditional organizational forms in VET and HE. That is, the more general institutional divide between the traditional organizational forms in VET and HE is not dissolved despite specific hybrid organizational forms that span the institutional boundaries between these organizational fields. Beyond that, the empirical analysis of the Austrian, German, and Swiss cases also indicates that hybridization to some extent stabilizes the traditional organizational forms in VET and HE. A major reason for this is that the hybrid organizational forms absorb some of the pressure that, for example, ongoing structural economic change puts on skill formation systems with a strong focus on initial VET.

It follows that the Hybridization Hypothesis can be confirmed, while the findings with regard to Stasis Hypotheses I–III are more ambiguous. Hybrid organizational forms present a puzzle to theories that assume, for instance, that established institutional complementarities or stratification patterns in coordinated models of capitalism and collective skill systems prevent the narrowing of the institutional divide between VET and HE. More precisely, the Stasis Hypotheses were not helpful in predicting that this divide is still compatible with gradual institutional change in the form of hybridization. Nevertheless, the Stasis Hypotheses are to some extent confirmed in the

sense that the institutional divide between VET and HE persists despite ongoing hybridization (see Evolution Scenario IV).

To what extent do the hybrid organizational forms differ in Germany, Austria, and Switzerland?

Among this study's goals was to contribute to a more differentiated perspective on the education systems of Germany, Austria, and Switzerland, which are usually grouped together as similar systems in international typologies of national skill formation systems. Thus, within the general developmental trajectory outlined above, variations in the specific ways in which hybridization plays out in Germany, Austria, and Switzerland were central. Chapters 6–8 provided evidence that these differences in the genesis and evolution of the three hybrid organizational forms are also influenced by their specific location within the education system as well as their relationship to the non-hybrid organizational forms (see Country Differences Hypothesis I). Several illustrations for this can be found in Chapters 6–8. To take an example from the German case, the development of the dual study programs signifies an unintended consequence of the politically planned establishment of the universities of applied sciences in the late 1960s (key pattern: *historical contingency*) (see also Graf, 2013b).[168] In the Austrian case, the establishment and expansion of the hybrid *berufsbildende höhere Schule* (BHS) is historically linked to the co-existence and co-evolution of a strong full-time school-based VET sector next to that of the system of dual apprenticeship training (key pattern: *long-term historical evolution*). In Switzerland, the strategic development of the FHIVET configuration builds on the quantitative dominance and high reputation of dual apprenticeship training (key pattern: *deliberate institutional design*).

In addition, the three case studies indicate an increasing imbalance between VET and HE in the sense that educational organizations in the field of HE usually enjoy greater managerial autonomy and emerge as increasingly influential organizational actors in the field of skill formation. The conflicts that arise from this imbalance are also a factor that contributes to the different developmental trajectories of hybridization in the DACH countries, namely between the providers of dual study programs and classic dual apprenticeship training in Germany, between BHSs and HE institutes in Austria, and between the Swiss universities of applied sciences and higher VET institutes in Switzerland. However, while there are some frictions between the hybrid and the traditional non-hybrid organizational forms, the availability of ambigui-

168 Chapter 6 also showed that the German Democratic Republic did not offer conditions conducive to the genesis of hybrid dual study programs, which in the Federal Republic of Germany included the self-initiative of industrial firms, corporatist-style market coordination, and state agencies with some degree of laissez-faire attitude.

ties in the institutional environment as well as sufficient scope for loose coupling enable the buffering of these frictions and, as a result, the maintenance of hybridity (see Section 9.5).

Another expectation formulated in Chapter 3 was that the degree of decentralization/centralization in the national education system is important for the degree of institutionalization or standardization at the national level of the hybrid organizational forms (see Country Differences Hypothesis II). In empirical terms, the main example of this is that hybridization has played out in different ways in the German *Länder*. For example, the first vocational academies were founded in Baden-Württemberg and later spread to several but not all the *Länder*. That is, in some *Länder*, dual study programs are only offered at universities of applied sciences or universities. Thus, German federalism contributes to a substantial differentiation in terms of the institutional set-up and the organizational structure of dual study programs. Interestingly, while Austria and Switzerland are also federal states (or in the case of Switzerland, a cantonal federation), the impact of federalism on hybridization in these two countries appears weaker than in Germany. That is, there are fewer regional differences in the implementation of these hybrid organizational forms in Austria and Switzerland than is the case in Germany (see also Graf, 2013a). However, in Switzerland the language communities mark notable regional differences, for example, considering the greater focus on dual apprenticeship training in the German-speaking compared to the French-speaking cantons. Correspondingly, the vocational baccalaureate is most common in the German-speaking region of Switzerland. Nevertheless, the Swiss hybrid organizational configuration – of which the vocational baccalaureate is a part – was formally institutionalized in both regions, as well as in Ticino, the Italian-speaking area of Switzerland.

This book has also shown that a meso level perspective that also takes into account the dynamic interrelation between the various educational organizations can be fruitfully integrated into research looking at institutional change from a comparative capitalism perspective. For example, in Chapter 3 the expectation was formulated that small state corporatism in Austria and Switzerland influences the institutionalization of the hybrid organizational forms due to the specific culture and mode of coordination in small tightly coupled but globally open economies (see Country Differences Hypothesis III). Indeed, I found small state corporatism to be one of the key explanatory factors for the differences in the national trajectories of hybridization. In the German case, the expansion of the dual study programs signifies an anti-collectivist development because here the degree of collective organization is strongly reduced compared to classic dual apprenticeship training. The increasing interaction between the stakeholders involved in dual study programs suggests that in Germany a new organizational field has emerged at the nexus of VET and HE that no longer plays to the old rules of corporatism

and, hence, challenges the traditional collectivist spirit of vocational training in Germany. The firms involved in dual study programs play the role of subversive actors: They have imported the apprenticeship principle into HE. In this way, they can still largely control access to these new programs while the state largely finances the academic part of the training.

While the German Federal Institute for Vocational Education and Training (BIBB) (e.g., Kupfer and Mucke, 2010) and the Higher Education Information System (HIS) (Minks, Netz, and Völk, 2011) have recently started to systematically gather data on the existing range of dual study programs, the significance of these programs for industrial relations and the respective influence of the social partners in the context of collective skill formation remains largely unobserved in the literature – despite the ongoing and rapid expansion of these programs. Not only is the literature on dual studies scarce, the means available for students to inform themselves about dual study programs are also still underdeveloped. This poses a serious barrier to mobility. For example, existing information platforms on the web do not cover all the possible options in the field of dual studies but usually only a specific selection. One reason is that a standardized nationwide classificatory system for the different types of dual study programs is evolving only slowly despite the dramatic rise in programs. Different classificatory systems are still currently in place. This, in turn, authentically reflects the legacy of dual study programs, namely their development in a grey area between the firmly established but institutionally separate organizational fields of VET and HE (see also Graf, 2012). The coming years are likely to present a critical juncture as to whether the rapid growth of the dual study programs will be re-embedded within (and thus strengthen) the system of corporate governance or whether it will push the German skill formation system increasingly towards a more market-coordinated model. However, few of the involved actors seem to be aware of the social and economic opportunities and risks connected to each of these possible scenarios. The trade unions in particular still seem to be sleepwalking through an important historical development if one considers their traditional importance in VET.

In contrast, the hybrid organizational forms in Austria and Switzerland are clearly shaped by small state corporatism and the close cooperation between the established stakeholders in the respective national skill formation systems. That is, the long-term evolution of the BHS in Austria and the strategic development of the universities of applied sciences that build on dual apprenticeship training and a vocational baccalaureate in Switzerland are both embedded within the traditional collectivist practices in the respective small states. Thus, while Katzenstein (1984, 1985, 2003) did not look at education in particular, his small state corporatism theory offers a useful framework for examining differences in the pattern of institutional change in the relationship between VET and HE in Austria and Switzerland (as small

states) compared to Germany (a large state). In this context, I also found that the education systems of the small states of Austria and Switzerland have been frequently influenced by practices and ideals dominant in the education systems of their large neighbors Germany and France. Further research could explore the extent to which education systems in small states are more open to a bricolage of standards, norms, and ideas present in foreign educational models and whether this applies equally in the current era of Europeanization (on the emergent European model in skill formation, see Powell, Bernhard, and Graf, 2012b).

What are the implications of hybridization for institutional permeability between VET and HE?

Hybrid organizational forms are, of course, not the only way in which permeability between VET and HE can or is being increased (see Section 3.3.4). However, they signify a development that is of special interest for the analysis of institutional permeability between VET and HE, not least because the literature has not yet fully analyzed hybridization in the form of the dual study programs, the BHS, and the FHIVET configuration as a systematic process in the DACH countries. Each of the three organizational forms described here spans the boundary between VET and HE in the regulative, normative, and cultural-cognitive dimensions. However, they also straddle the conventional divide between upper- and post-secondary education. Therefore, these hybrids represent a form of institutional permeability in these education systems and specifically between their VET and HE sectors. For example, the dual study programs, the BHS, and the Swiss FHIVET configuration all bring together actors who have traditionally been part of *either* VET *or* HE and makes them reconsider distinctions between these two organizational fields that are usually taken for granted. As mentioned in the above, developments such as these have not yet led to the dissolution of the institutional divide between VET and HE at the system level. However, it remains to be seen whether in the long-run a further expansion of these still relatively new hybrid organizational forms will serve to diffuse regulations, standards, and ideals that help to overcome remaining institutional barriers between VET and HE. In this context, it will also be interesting to observe how processes of hybridization will be affected by demographic changes and the anticipated increasing shortage of skilled workers.

This book has focused on the role that hybrid organizational forms play in facilitating institutional permeability between VET and HE. It was beyond the scope of this research to explore in great detail the implications the three hybrid organizational forms have in terms of individual mobility and social inequality. This would, for instance, require a detailed analysis of recruitment and selection processes on the basis of individual data. Yet, the study indicates that hybrid organizational forms do indeed have the potential to in-

crease permeability in terms of realized individual social mobility. In fact, I found that these organizational forms represent demanding educational pathways as well as prestigious segments in all three countries that can encourage young people to start a Bachelor program who would otherwise be unlikely to enter HE. The hybrid organizational forms constitute an alternative – which is highly regarded both by students and employers – to traditional educational pathways. In Germany, the dual study programs can render HE a more viable option for those who prefer a practical program that provides a salary and relatively safe job prospects over more abstract academic learning at a traditional university. In Austria, the BHS picks up young people at an early stage and provides an attractive alternative, for instance to academic secondary education, thanks to the double qualification it offers (higher education entrance certificate and VET certificate). In Switzerland, the FHIVET configuration both increases the attractiveness of dual apprenticeship and motivates young people who have completed their apprenticeship to "add on" a Bachelor degree. Thus, the three hybrids have the potential to increase social mobility for a group of young people who would be unlikely to choose the standard routes in HE. Future research could build on these findings to explore the linkage between institutional hybridization and realized social mobility in more detail. With regard to the question of which pattern of stratification corresponds to a specific model of capitalism, hybrid organizational forms signify a promising new research field for theories of (educational) stratification and models of capitalism.

What is the impact of European educational policies on such hybrid organizational solutions?

In addition, this book examined the history and complex relationship of European policies in the two fields of VET and HE in order to explain how they affect the specific skill formation systems of the DACH countries. In this context, the focus was on the observed processes of hybridization at the nexus of VET and HE. In Chapter 3 I argued that the different positions Germany, Austria, and Switzerland hold in relation to the European Union (EU) (e.g., the degree of integration into European networks and communities) is likely to be one of the major differentiating factors with regard to the isomorphic impact of these processes on domestic developments (see Differential Impact of Europeanization Hypothesis I). As a long-standing member of the EU (as well as its predecessor organizations) and the largest economy in Europe, Germany has been actively involved in and one of the key drivers of European educational initiatives from the post-World War II period up to the present. Austria, on the other hand, did not join the EU until 1995. Being a latecomer to the process of European integration, most of the Austrian stakeholders in skill formation have been keen to quickly implement the current European educational standards. Not surprisingly, the creation of the

universities of applied sciences took place in the wake of Austria's preparations for accession to the EU. In contrast, Switzerland is not a member to the EU and continuous to have a rather ambivalent relationship towards European activities in the field of education. While most stakeholders in Swiss HE have been enthusiastic about getting involved in the Bologna process, the reaction by the responsible VET actors (including the Federal Office for Professional Education and Technology) to the Copenhagen process and the European Qualification Framework (EQF) has been hesitant rather than enthusiastic. The Swiss VET stakeholders seem to prefer to watch how the Copenhagen process fares in the other countries in regard to dual apprenticeship training systems (especially its large German neighbor) before taking a final decision to fully join the process.

Furthermore, I expected that, due to small state corporatism, Austria and Switzerland are in a better position than Germany to develop a consensual response to the influences of Europeanization (see Differential Impact of Europeanization Hypothesis II). However, on this point my findings have been less clear. My study rather suggests that the degree of consensus reached among national stakeholders is determined by the field of education (VET or HE). That is, the Bologna process was swiftly implemented in all three countries, despite repeated protests by students and academic staff who feared that policy-makers would use Bologna as a tool to increase competitive market elements in the national HE system. However, overall, the implementation of European educational policies in the field of VET is fraught with more conflict than it is in the field of HE. One reason is that the social partners are worried that they will lose some of their stakes in the VET system as the national governments and Brussels step up their cooperation in the policy field of education. While the social partners are to some extent involved in the European policy-making processes, their influence in Brussels is lower than when compared to the historically evolved balance of power in the national arena. Interestingly, this is not so much an issue as far as traditional HE is concerned, as the social partners are not involved to the same extent in its governance as they are in the case of VET (and especially dual apprenticeship training).

Further key findings with regard to international influences on the DACH countries include that Europeanization processes were powerful drivers of change long before the Bologna and Copenhagen processes were signed (e.g., with regard to the European directives on the recognition of professional qualifications). In addition, international processes that go beyond Europeanization have triggered domestic responses that are relevant for the processes of hybridization. This has, for instance, been the case with comparative OECD reports that shaped the national discourse in the DACH countries. Moreover, it became clear that the preconditions for internationalization and Europeanization are not the same for VET and HE. For instance,

HE institutes have been active at an international level longer. In other words, in Germany, Austria, and Switzerland the degree of internationalization (e.g., in terms of international cooperation or international student mobility) was higher in HE than in VET already prior to the Bologna and Copenhagen processes. These factors, in turn, further facilitated the uptake of the Bologna process in Germany, Austria, and Switzerland.

In addition, the timing of the Bologna and Copenhagen processes has advantages for the former, given that the Bologna process was signed in 1999 and the Copenhagen process three years later. The two processes were not synchronized from the start. In fact, the Bologna process led the way and even served as a trigger for the Copenhagen process. This is one more reason why the Copenhagen process is struggling to develop the kind of dynamism that would be required to promote the Europeanization of VET to the same extent as the Bologna process stimulates the Europeanization of HE. Yet, if the Copenhagen process were to catch up with the Bologna process, this would most likely also be to the advantage of the hybrid organizational forms, as these flourish best in an institutional environment that supports parity of esteem between VET and HE. From this perspective, European as well as national policy-makers should make a greater effort to synchronize the Bologna process and the Copenhagen process in order to maximize these processes' potential to facilitate institutional and social mobility between VET and HE in Europe. In the context of the DACH countries, such an adjustment process is most likely to succeed if policy-makers manage to facilitate an inclusive and constructive dialogue between the key stakeholders in both VET and HE.

A more general and unintended consequence of the current Europeanization processes is that they reduce the scope for ambiguity and loose coupling on which the hybrid organizational models to some extent rely for their continuous reproduction. This holds for both the introduction of Bachelor degrees as well as the EQF. For example, in Germany and Switzerland the introduction of the Bachelor degrees represents a pressure towards academic drift of the respective hybrid organizational forms, while in Austria the debates about the EQF tend to push the BHS out of the post-secondary level (into which they informally extend) in the direction of the upper-secondary level of education. Thus, while one of the central goals of the Europeanization of skill formation is to increase permeability between VET and HE, the rather rigid interpretation of the EQF in the DACH countries has the effect that it reduces the level of ambiguity and loose coupling that would be required for further hybridization. In this sense, the EQF has the paradoxical result that it negatively affects some of the underlying conditions for further hybridization at the nexus of VET and HE. At the same time, Europeanization is just one of the factors affecting current hybridization processes in the DACH countries. Thus far, the drivers of hybridization have been strong

enough to accommodate this challenge from Europeanization. However, if European educational policy-makers want to optimally promote permeability between VET and HE, then more attention needs to be paid to the complexity of national and local institutional conditions and established innovative organizational solutions, like the hybrid organizational forms that have evolved in Austria, Germany, and Switzerland.

11. APPENDICES

11.1 Expert Interviews

Austria (AT)

All the interviews were carried out by Lukas Graf with stakeholders in or experts on the Austrian skill formation system. Interviews AT1–AT10 were carried out in Vienna. Interview AT11 was carried out in Berlin. The interviews took place on the following dates: Interview AT1: 15 March 2010; AT2: 16 March 2010; AT3: 22 March 2012; AT4: 22 March 2010; AT5: 24 March 2010; AT6: 25 March 2010; AT7: 26 March 2010; AT8: 29 March 2010; AT9: 30 March 2010; AT10: 1 April 2010; AT11: 19 May 2011. Below the organizations to which the stakeholders or experts interviewed belong are listed in alphabetical order. Some of the interviews were carried out with more than one stakeholder or expert from a specific organization (see number in square brackets).

- Austrian Federal Economic Chamber (*Wirtschaftskammer Österreich*, WKO) [1]
- Austrian Institute for Research on Vocational Training (*Österreichisches Institut für Berufsbildungsforschung*, öibf) [1]
- Chamber of Labor (*Arbeiterkammer für Arbeiter und Angestellte für Wien*, AK) [3]
- Federal Ministry for Education, the Arts and Culture (*Bundesministerium für Unterricht, Kunst und Kultur*, BMUKK) [1]
- Federal Ministry of Science and Research (*Bundesministerium für Wissenschaft und Forschung*, BMWF), Project Group National Qualification Framework, Universities, and Universities of Applied Sciences Division [1]
- Federal Ministry of Science and Research (*Bundesministerium für Wissenschaft und Forschung*, BMWF), Department I/12a "Quality Assurance and Lifelong Learning in Higher Education (*Qualitätssicherungsfragen und lebenslanges Lernen im Hochschulbereich*)" [1]
- Freelance consultant operating in the organizational fields of VET and HE in Austria [1]
- Institute for Advanced Studies (*Institut für Höhere Studien*, IHS) [1]
- Institute for Research on Qualifications and Training of the Austrian Economy (*Institut für Bildungsforschung der Wirtschaft*, ibw) [1]

– Research Laboratory 3s (*Superior:Skills:Solutions Unternehmensberatung GmbH*, 3s) [2]
– University of Vienna (*Universität Wien*, Univie) [1]

Germany (DE)

All the interviews were carried out by Lukas Graf with stakeholders in or experts on the German skill formation system. Interviews DE3–DE6 were carried out in collaboration with Nadine Bernhard and Justin Powell. Interviews DE7 and DE8 were carried out in collaboration with Nadine Bernhard. Interview DE1: 10 March 2011 (Berlin); DE2: 10 March 2011 (Berlin); DE3: 16 March 2011 (Bonn); DE4: 17 March 2011 (Bonn); DE5: 17 March 2011 (Bonn); DE6: 18 March 2011 (Bonn); DE7: 18 March 2011 (Bonn); DE8: 6 June 2011 (Berlin); DE9: 14 Oct. 2011 (Duisburg); DE10: 14 Oct. 2011 (Duisburg); DE11: 8 March 2012 (Berlin). Below the organizations to which the stakeholders or experts interviewed belong are listed in alphabetical order. Some of the interviews were carried out with more than one stakeholder or expert from a specific organization (see number in square brackets).

– Federal Institute for Vocational Education and Training (*Bundesinstitut für Berufsbildung*, BIBB), Quality Assurance and Development Section and Training Technology, Training Personnel, Learning Site Cooperation Section [2]
– Federal Institute for Vocational Education and Training (*Bundesinstitut für Berufsbildung*, BIBB), Institute Management [1]
– Federal Institute for Vocational Education and Training (*Bundesinstitut für Berufsbildung*, BIBB), Developmental Programs/Pilot Projects Section [1]
– Federal Institute for Vocational Education and Training (*Bundesinstitut für Berufsbildung*, BIBB), International Monitoring and Benchmarking/ European VET Policy Section [1]
– Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*, BMBF), Vocational Education and Training, Life-long Learning Section [1]
– German Metalworkers' Union (*IG Metall*) [1]
– German Rectors' Conference (*Hochschulrektorenkonferenz*, HRK), Higher Education Reform in Germany and Europe Section [1]
– Large industrial firm based in North Rhine-Westphalia, Human Resource Management Department [1]
– Large technology firm with German headquarters in Baden-Württemberg, Human Resource Management Department [1]
– University of applied sciences based in Berlin, Department for dual study programs [1]

– University of applied sciences based in North Rhine-Westphalia, Department for dual study programs [1]

Switzerland (CH)

All the interviews were carried out by Lukas Graf with stakeholders in or experts on the Swiss skill formation system. Interviews CH1–CH8, CH10, and CH12–CH15 were carried out in Bern. Interviews CH9 and CH11 were carried out in Zurich. Interview CH1: 3 Sep. 2010; CH2: 7 Sep. 2010; CH3: 9 Sep. 2010; CH4: 9 Sep. 2010; CH5: 10 Sep. 2010; CH6: 13 Sep. 2010; CH7: 14 Sep. 2010; CH8: 14 Sep. 2010; CH9: 15 Sep. 2010; CH10: 15 Sep. 2010; CH11: 16 Sep. 2010; CH12: 20 Sep. 2010; CH13: 20 Sep. 2010; CH14: 22 Sep. 2010; CH15: 23 Sep. 2010; CH16: 21 March 2011; CH17: 22 March 2011; CH18: 25 March 2011. Below the organizations to which the stakeholders or experts interviewed belong are listed in alphabetical order. Some of the interviews were carried out with more than one stakeholder or expert from a specific organization (see number in square brackets).

– Association of Commercial Employees (*Kaufmännischer Verband*, KV) [1]
– Bern University of Applied Sciences (*Fachhochschule Bern*, FHB) [2]
– Center for Continuing Education, University of Bern (*Zentrum für universitäre Weiterbildung, Universität Bern*, ZUW) [1]
– Conference of the Swiss Cantonal Vocational Training Departments (*Schweizerische Berufsbildungsämterkonferenz*, SBBK), Expert I, IVET [1]
– Conference of the Swiss Cantonal Vocational Training Departments (*Schweizerische Berufsbildungsämterkonferenz*, SBBK), Expert II, Swiss FHs [1]
– Employer Network for Vocational Education and Training (*Arbeitgeber-Netzwerk für Berufsbildung*, SQUF) [1]
– Federal Office for Professional Education and Training (*Bundesamt für Berufsbildung und Technologie*, BBT) [3]
– Occupational and career consulting in the lowlands of the Canton of Bern (*Berufs-, Studien- und Laufbahnberatung BIZ Bern-Mittelland*) [1]
– Rectors' Conference of the Swiss Universities of Applied Sciences (*Rektorenkonferenz der Fachhochschulen der Schweiz*, KFH) [1]
– Rectors' Conference of the Swiss Universities (*Rektorenkonferenz der Schweizer Universitäten*, CRUS) [2]
– State Secretariat for Education and Research (*Staatssekretariat für Bildung und Forschung*, SBF)[1]
– Student movement Bern (*StudentInnenbewegung Bern*) [1]
– Swiss Conference of Cantonal Ministers of Education (*Schweizerische Konferenz der kantonalen Erziehungsdirektoren*, EDK) [1]

- Swiss Employers Association (*Schweizerischer Arbeitgeberverband*, SAV) [1]
- Swiss Federation of Trade Unions (*Schweizerischer Gewerkschaftsbund*, SGB) [1]
- Swiss Society for Applied Vocational Education Research (*Schweizerische Gesellschaft für angewandte Berufsbildungsforschung*, SGAB) [1]
- Swiss Trade Association (*Schweizerischer Gewerbeverband*, SGV) [1]
- Travail.Suisse (*Travail.Suisse – Die dynamische Dachorganisation der Arbeitnehmer*) [1]

11.2 Interview Guideline (Example: German Case)

Nationale Entwicklungen (allgemein)

- Wie würden Sie die Entwicklung des deutschen Bildungssystems – insbesondere des Berufsbildungs- und Hochschulsystems – in den letzten 20 Jahren beschreiben? Welche Dynamiken und Faktoren stehen hinter diesen Entwicklungen? Inwiefern sind diese Entwicklungstrends spezifisch für Deutschland im Vergleich zu anderen europäischen Ländern?
- Gab es bezüglich dieser Entwicklungen einen Konsens zwischen den verschiedenen Stakeholdern? Wer waren die Hauptakteure? Was waren die Streitpunkte?
- Wie hat sich das Verhältnis zwischen den verschiedenen Ausbildungsgängen – z.B. duale und schulische Ausbildung, Gymnasium, Universität, Fachhochschule (Hochschule für angewandte Wissenschaften), höhere Berufsbildung, duale Studiengänge – im Sekundär- und Tertiärbereich in den letzten Jahren verändert und warum?
- Hat die Durchlässigkeit zwischen Berufs- und Hochschulbildung zugenommen? Welche Faktoren waren hier entscheidend? Was wären Voraussetzungen zur Schaffung von mehr Durchlässigkeit? Was sind bestehende Barrieren?
- Wie hat sich die Debatte über Durchlässigkeit Ihrer Meinung nach in den letzten Jahren entwickelt/verändert? Welche Schwerpunkte waren wichtig in den 80ern, 90ern und heute?
- Meist spricht man darüber, was an den Hochschulen alles passieren muss, um Durchlässigkeit zwischen Berufsbildung und Hochschulbildung zu gewährleisten. Was muss aber auch von Seiten der Berufsbildung verändert werden, um Durchlässigkeit zu ermöglichen?
- Welche Verfahren der Anrechnung werden in Deutschland angewandt, um den Zugang zu Hochschulen zu ermöglichen? Wie stark sind diese Verfahren verbreitet? Was sind die Probleme bei der Umsetzung?

Europäisierung

- Wie wichtig ist die europäische Ebene für gegenwärtige Diskussionen und Entwicklungen im Bildungssystem? Sind Berufsbildungs- und Hochschulsysteme unterschiedlich stark betroffen? Sind die gegenwärtigen Reformen eher exogen (z.B. durch Europa) oder endogen (z.B. durch den nationalen Entwicklungspfad) beeinflusst?
- Wer sind die wichtigsten Akteure? Welche Organisationen sind in Bezug auf die nationale Umsetzung dieser Europäisierungsprozesse entscheidend? Hat sich die Rolle dieser Akteure oder Organisationen über die Zeit verändert?
- Welchen Einfluss hat der „Europäische Qualifikationsrahmen" auf die Entwicklungen in Deutschland? Welchen Einfluss hat die Entwicklung des Deutschen Qualifikationsrahmens (DQR) auf das Verhältnis zwischen Berufs- und Hochschulbildung?
- Was sind die größten Konfliktlinien in den Debatten um den DQR?
- Wie sehen Sie den DQR bzw. was kann der DQR leisten? Ist er ein Transparenzinstrument oder noch etwas anderes?

Duale Studiengänge

- Welchen Einfluss hat der Bologna-Prozess auf die dualen Studiengänge?
- Welchen Einfluss haben der Kopenhagen-Prozess und insbesondere die Entwicklung des DQR auf die dualen Studiengänge?
- Lassen sich bezüglich dieser Fragen Unterschiede für die vier Typen von dualen Studiengängen ausmachen?
- Was unterscheidet duale Studiengänge an Berufsakademien von denen an Fachhochschulen (Hochschulen für angewandte Wissenschaften)? Welche Rolle kommt der dualen Hochschule Baden-Württemberg zu?
- Ist das Bundesministerium für Bildung und Forschung (BMBF) im gleichen Maße an dualen Studiengängen an Berufsakademien und Fachhochschulen (Hochschulen für angewandte Wissenschaften) interessiert? Ist das Bundesinstitut für Berufsbildung (BIBB) im gleichen Maße an dualen Studiengängen an Berufsakademien und Fachhochschulen (Hochschulen für angewandte Wissenschaften) interessiert? Was sind die jeweiligen Hintergründe?
- Warum sind duale Studiengänge in manchen Bundesländern weiter verbreitet als in anderen? Welche Prognose können Sie für eine weitere Expansion der dualen Studiengänge machen? Welche Rolle spielt der Bildungsföderalismus?
- Was sind die Auswirkung dualer Studiengänge in Bezug auf die Frage der Durchlässigkeit zwischen Berufs- und Hochschulsystem?
- Wissen Sie von Organisationsformen außerhalb Deutschlands, die den deutschen dualen Studiengängen ähnlich sind?

Ausblick

- Wie wird sich das deutsche Bildungssystem Ihrer Ansicht nach in den kommenden Jahren verändern?
- Welche Veränderungen im deutschen Berufsbildungssystem und Hochschulsystem würden Sie als notwendig erachten und warum?

11.3 The European Qualification Framework (EQF)

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

Table 32: Descriptors defining levels in the EQF as provided by the European Parliament and Council (2008: 5–6)

	Knowledge	**Skills**	**Competences**
	In the context of EQF, knowledge is described as theoretical and/or factual	In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments)	In the context of EQF, competence is described in terms of responsibility and autonomy
Level 1 Relevant learning outcomes are	basic general knowledge	basic skills required to carry out simple tasks	work or study under direct supervision in a structured context
Level 2 Relevant learning outcomes are	basic factual knowledge of a field of work or study	basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	work or study under supervision with some autonomy
Level 3 Relevant learning outcomes are	knowledge of facts, principles, processes and general concepts, in a field of work or study	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	take responsibility for completion of tasks in work or study adapt own behavior to circumstances in solving problems

	Knowledge	Skills	Competences
Level 4 Relevant learning outcomes are	factual and theoretical knowledge in broad contexts within a field of work or study	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
Level 5 (*) Relevant learning outcomes are	comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	exercise management and supervision in contexts of work or study activities where there is unpredictable change review and develop performance of self and others
Level 6 (**) Relevant learning outcomes are	advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts take responsibility for managing professional development of individuals and groups
Level 7 (***) Relevant learning outcomes are	highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research critical awareness of knowledge issues in a field and at the interface between different fields	specialized problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches take responsibility for contributing to profes-sional knowledge and practice and/or for reviewing the strategic performance of teams

	Knowledge	Skills	Competences
Level 8 (****) Relevant learning outcomes are	knowledge at the most advanced frontier of a field of work or study and at the interface between fields	the most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

Compatibility with the Framework for Qualifications of the European Higher Education Area:
The Framework for Qualifications of the European Higher Education Area provides descriptors for cycles. Each cycle descriptor offers a generic statement of typical expectations of achievements and abilities associated with qualifications that represent the end of that cycle.

(*) The descriptor for the higher education short cycle (within or linked to the first cycle), developed by the Joint Quality Initiative as part of the Bologna process, corresponds to the learning outcomes for EQF level 5.

(**) The descriptor for the first cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 6.

(***)The descriptor for the second cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 7.

(****) The descriptor for the third cycle in the Framework for Qualifications of the European Higher Education Area agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process corresponds to the learning outcomes for EQF level 8.

Source: European Parliament and Council (2008: 5–6)

11.4 The ISCED Classification

Table 33 illustrates the International Standard Classification of Education (ISCED), which helps to distinguish different levels, types, and pathways of education and training. ISCED 5A refers to programs that are "theoretically based/research preparatory" or provide access to high skill professions such as medicine and architecture, whereas programs in the category 5B are more "practical/technical/occupationally specific" (UNESCO, 2006: 35; see also Schneider, 2008).

Table 33: ISCED classification

Upper-secondary education Stronger subject specialisation than at lower secondary level, with teachers usually more qualified. Students typically expected to have completed 9 years of education or lower secondary schooling before entry and are generally 15 or 16 years old.	ISCED 3 (subcategories: 3A prepares students for university-level education at level 5A; 3B for entry to vocationally oriented tertiary education at level 5B; 3C prepares students for workforce or for post-secondary non-tertiary education at level ISCED 4)
Post-secondary non-tertiary education Internationally, this level straddles the boundary between upper-secondary and post-secondary education, even though it might be considered upper-secondary or post-secondary in a national context. Programme content may not be significantly more advanced than that in upper-secondary, but is not as advanced as that in tertiary programmes. Duration usually the equivalent of between 6 months and 2 years of full-time study. Students tend to be older than those enrolled in upper-secondary education.	ISCED 4 (subcategories: 4A may prepare students for entry to tertiary education, both university level and vocationally oriented; 4B typically prepares students to enter the workforce)
Tertiary education	ISCED 5 (subcategories: 5A and 5B)
Tertiary-type A education Largely theory-based programmes designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine, dentistry or architecture. Duration at least 3 years full-time, though usually four or more years. These programmes are not exclusively offered at universities; and not all programmes nationally recognized as university programmes fulfil the criteria to be classified as tertiary-type A. Tertiary-type A programmes include second-degree programmes, such as the American master's degree.	ISCED 5A
Tertiary-type B education Programmes are typically shorter than those of tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered in the respective programmes. They have a minimum duration of two years full-time equivalent at the tertiary level.	ISCED 5B

Source: OECD (2011: 26–27); the original table also includes the ISCED categories 0, 1, 2, and 6.

11.5 Chapter Appendices

11.5.1 Theoretical Framework (Chapter 3)

Table 34: Overview of main hypotheses and scenarios (DACH countries)

Hypotheses	Brief description	Institutional perspective
Hypotheses with regard to institutional embeddedness of the divide between VET and HE		
Stasis Hypothesis I	Structuring of state education systems, status groups and social stratification	Power explanation
Stasis Hypothesis II	High degree of legitimacy of the rules of educational allocation	Legitimation explanation
Stasis Hypothesis III	Varieties of capitalism and institutional complementarities	Functional explanation
Hypothesis for change with regard to the divide between VET and HE		
Hybridization Hypothesis	Hybridization through organizational forms that represent layering	Historical and organizational
Hypotheses with regard to type of change		
Genesis Scenario I	Hybrid produced through invasion ("hostile worlds")	Historical and organizational
Genesis Scenario II	Hybrid produced through mutual approximation ("blended worlds")	Historical and organizational
Evolution Scenario I	Hybrid collapses as it gets subsumed in one or other organizational field	Historical and organizational
Evolution Scenario II	Hybrid turns into something new that is no longer hybrid	Historical and organizational
Evolution Scenario III	Hybrid expands continuously, leading to a gradual breakdown of schism	Historical and organizational
Evolution Scenario IV	Hybrid thrives but expansion limited as traditional organizational forms persist	Historical and organizational
Hypotheses for country-level differences with regard to hybridization		
Country Differences Hypothesis I	Location of hybrid and relation to other organizational forms matters	Comparative-organizational
Country Differences Hypothesis II	Degree of centralization matters for degree of standardization of hybrid	Comparative-historical
Country Differences Hypothesis III	Small state corporatism in Austria and Switzerland shapes political processes	Comparative-historical
Differential Impact of Europeanization Hypothesis I	Specific relationship of country to Europe influences hybridization	Comparative-organizational
Differential Impact of Europeanization Hypothesis II	Small state corporatism influences response to Europeanization	Comparative-historical

Source: Author's illustration

11.5.2 Germany (Chapter 6)

Table 35: Ideal-typical description of major segments in the German education system, 2012

	Pre-vocational training	Dual apprenticeship	School-based VET	**Hybrid dual study programs**	Academic secondary schools	Universities of applied sciences	Universities
Organizational field	VET	VET	VET	VET and HE	HE (preparation)	HE	HE
Educational level	Lower- and upper-secondary	Upper-secondary	Upper-secondary	Mainly post-secondary	Upper-secondary	Post-secondary	Post-secondary
Host organization	School	Firm and part-time school	School-based	University of applied science, vocational academy, university	School	HE institute	HE institute
Type of knowledge	Basic vocational	Vocationally specific	Vocationally specific	Vocationally specific and basic academic	General and academic (preparation)	Academic and applied/practical	Academic & abstract/research-based
Link to firms	Relatively loose	Tight	Medium	Tight	Loose	Medium	Relatively low
Main supporter	State	Firms, state, & trade unions	State	Large and medium-sized firms and state	State	State	State

N.B.: This table presents highly stylized information so as to provide a rough sketch of the location of the hybrid dual study programs in the German skill formation system. See Chapter 6 for details.

Source: Author's illustration

11.5.3 Austria (Chapter 7)

Table 36: Fields of education and training, Austria, 2009

Level	Training Areas
BMS	Construction engineering; chemistry; EDP-informatics-information technology; electronic engineering; electrical engineering; healthcare professions; interior design and timber technology; careers in business, art and design; artisanry; agriculture and forestry; mechanical engineering; mechatronics; media technology and management; fashion/textiles; social occupations; textile engineering; tourism; business occupations
BHS, post-secondary VET courses	Construction engineering; business management; chemistry; chemical engineering; EDP-informatics-information technology; electronic engineering; electrical engineering; healthcare professions; interior design and timber technology; careers in business; nursery teacher training; art and design; artisanry; agriculture and forestry; food technology; mechanical engineering; mechatronics; media technology and management; fashion/textiles; social pedagogy; tourism; material engineering; business occupations; industrial management
Dual apprenticeship	Construction; office, administration, organisation; chemistry; printing, photographic, graphic, paper; electrical engineering, electronics; gastronomy; health and body care; commerce; wood, glass and clay industries; information and communications technologies; food and beverages; metal and machine engineering industries; fashion, textiles, leather industries; animals and plants; transport and warehousing
Universities of applied sciences	Biotechnology; health; information technology and multimedia; national defence and security; social affairs; technology and engineering sciences; telecommunications and network technology; tourism; business and management; business and technology

Source: Adapted from Dornmayer and Tritscher-Archan (2009b: 75–76)

Table 37: Ratios of VET to general education and of schooling to practice in the different organizational forms at upper-secondary level in Austria, 2009

Program	ISCED equivalent	Ratio VET/general education	Ratio school/practice	Further qualification options
Prevocational school	3C	60/40	60/40	Apprenticeship, BMS, BHS
Berufsbildende mittlere Schulen (BMS)	3B	60/40	90/10	BRP*, direct entry into LM**, self-employment
Berufsbildende höhere Schule (BHS)	4A	60/40	90/10	HE, direct entry into LM, self-employment
Schools for general healthcare and nursing	4B	80/20	50/50	Direct LM entry, BRP
Dual apprenticeship training	3B	90/10	20/80	BRP, direct entry into LM, self-employment

* BRP = *Berufsreifeprüfung* (vocational baccalaureate); ** LM = labor market

Source: Adapted from Dornmayr and Tritscher-Archan (2009: 75) and Grün and Tritscher-Archan (2009b: 27)

11.6 Translation of Key Terms

Table 38: Translation of key terms

English term	*German term*	Abbreviation	Country
Academies of Arts and Sciences	*Akademien der Wissenschaften Schweiz*		CH
Academy of art	*Kunsthochschule*		
Apprentice	*Lehrling im dualen System*		
Apprenticeship with baccalaureate	*Lehre mit Matura*		AT
Association of Commercial Employees	*Kaufmännischer Verband*	KV	CH
Austrian Chamber of Labor	*Arbeiterkammer*	AK	AT
Austrian Federal Economic Chamber	*Wirtschaftskammer Österreich*	WKO	AT

English term	***German term***	**Abbreviation**	**Country**
Austrian Institute for Research on Vocational Training	*Österreichisches Institut für Berufsbildungsforschung*	Öibf	AT
Austrian People's Party	*Österreichische Volkspartei*	ÖVP	AT
Austrian Trade Union Federation	*Österreichischer Gewerkschaftsbund*	ÖGB	AT
Baccalaureate	*Abitur (DE), Matura (AT, CH)*		
Basic Federal Certificate	*Eidgenössisches Berufsattest*		CH
Certificate granting access to higher education studies	*Abitur (DE), Matura (AT, CH)*		
Certificate of Specialized Middle Schools	*Fachmittelschulausweis*		CH
Chamber of Agriculture	*Landwirtschaftskammer*		AT
Chamber of Commerce	*Industrie- und Handelskammer*	IHK	DE
Chamber of Crafts	*Handwerkskammer*	HWK	DE
Chamber of Labor	*Arbeiterkammer für Arbeiter und Angestellte für Wien*	AK	AT
Colleges of higher vocational education and training	*Höhere Fachschulen*		CH
Combined VET with a general university-entrance certificate	*Berufsausbildung mit Abitur*		GDR
Conference of the Principles of the Engineering Schools	*Direktorenkonferenz der Ingenieursschulen*		CH
Conference of the Swiss Cantonal Vocational Training Departments	*Schweizerische Berufsbildungsämterkonferenz*	SBBK	CH
Continuing education	*Weiterbildung*		
Cooperative university	*Duale Hochschule*		DE
Crafts Code	*Handwerksordnung*		DE
Double apprenticeship training	*Doppellehre*		AT
Dual apprenticeship training	*Lehrlingsausbildung/duale Ausbildung/Lehre*		
Dual apprenticeship training system	*Duales Ausbildungssystem*		
Dual study programs accompanying an occupation	*Berufsbegleitende duale Studiengänge*		DE
Dual study programs integrating an initial VET certificate	*Ausbildungsintegrierende duale Studiengänge*		DE
Dual study programs integrating an occupation	*Berufsintegrierende duale Studiengänge*		DE
Dual study programs integrating work experience	*Praxisintegrierende duale Studiengänge*		DE
Employer Network for Vocational Education and Training	*Arbeitgeber-Netzwerk für Berufsbildung*	SQUF	CH

English term	***German term***	**Abbrevi-ation**	**Coun-try**
Employers' associations	*Arbeitgeberverbände*		
European Qualification Framework	*Europäischer Qualifikationsrahmen*	EQF	
Federal Certificate	*Eidgenössisches Führungs-zeugnis*		CH
Federal Commission for the Vocational Baccalaureate	*Eidgenössische Berufsmaturitäts-kommission*	EBMK	CH
Federal Department of Economic Affairs	*Eidgenössisches Volkswirt-schaftsdepartement*	EDV	CH
Federal Department of Home Affairs	*Eidgenössisches Departement des Inneren*	EDI	CH
Federal Institute for Vocational Education and Training	*Bundesinstitut für Berufsbildung*	BIBB	DE
Federal Institute of Technology	*Eidgenössische Technische Hochschule*	ETH	CH
Federal Ministry for Economy, Family and Youth	*Bundesministerium für Wirtschaft, Familie und Jugend*	BMWFJ	AT
Federal Ministry for Education, the Arts and Culture	*Bundesministerium für Unterricht, Kunst und Kultur*	BMUKK	AT
Federal Ministry of Education and Research	*Bundesministerium für Bildung und Forschung*	BMBF	DE
Federal Ministry of Science and Research	*Bundesministerium für Wissen-schaft und Forschung*	BMWF	AT
Federal Office for Professional Education and Technology	*Bundesamt für Berufsbildung und Technologie*	BBT	CH
Federation of Austrian Industries	*Industriellenvereinigung*	IV	AT
Freedom Party of Austria	*Freiheitliche Partei Österreichs*	FPÖ	AT
Further education	*Fortbildung*		
General Agreement on Trade in Services	*Allgemeines Abkommen über Handel mit Dienstleistungen*	GATS	
German Higher Education Framework Act	*Hochschulrahmengesetz*		DE
German Metalworkers' Union	*IG Metall*		DE
German Qualification Framework	*Deutscher Qualifikationsrahmen*	DQR	DE
German Rectors' Conference	*Hochschulrektorenkonferenz*	HRK	DE
Gymnasium (academic secondary school)	*Gymnasium*		
Higher economic and administra-tion college	*Höhere Wirtschafts- und Verwal-tungsschule*		CH
Higher education entrance qualification examination	*Studienberechtigungsprüfung*		
Higher Education Information System	*Hochschul-Informations-System*	HIS	DE

English term	*German term*	Abbreviation	Country
Academic secondary school	*Allgemeinbildende höhere Schule*	AHS	AT
Higher technical college	*Höhere Technische Lehranstalt (Ingenieursschule)*		CH
Higher vocational school for agriculture and forestry	*Höhere land- und forstwirtschaftliche Lehranstalt*	HLFL	AT
Higher vocational school for technology and commerce	*Höhere technische und gewerbliche Lehranstalt*	HTL	AT
Higher vocational school with higher education entrance qualification	*Berufsbildende höhere Schule*	BHS	AT
Initial vocational education and training	*Grundständige Berufsausbildung (Sekundarstufe II)*	IVET	
Institute for Advanced Studies	*Institut für Höhere Studien*	IHS	AT
Institute for Research on Qualifications and Training of the Austrian Economy	*Institut für Bildungsforschung der Wirtschaft*	ibw	AT
Integrated comprehensive school	*Gesamtschule*		DE
Intermediate school-leaving certificate	*Realschulabschluss*		DE
Master craftsman	*Meister*		
Baccalaureate school	*Gymnasiale Maturitätsschule*		CH
Middle-class intellectuals	*Bildungsbürgertum*		
National Qualification Framework	*Nationaler Qualifikationsrahmen*	NQF	
Part-time school for apprentices	*Berufsschule (Teilzeit)*		
Passerelle (bridging option)	*Passerelle (Brückenoption)*		CH
People with an *Abitur*	*Abiturientinnen und Abiturienten*		DE
Preparation programs for the exams of higher VET	*Höhere Fach- und Berufsprüfungen*		CH
Prevocational school	*Polytechnische Schule*		AT
Prevocational training	*Vorlehre*		CH
Professional associations	*Berufsverbände*		
Professional organizations from the world of work	*Organisationen der Arbeitswelt*	OdA	CH
Public administration colleges	*Verwaltungsfachhochschulen*		DE
Public Employment Service	*Arbeitsmarktservice*		AT
Rectors' Conference of the Swiss Universities of Applied Sciences	*Rektorenkonferenz der Fachhochschulen der Schweiz*	KFH	CH

English term	***German term***	**Abbreviation**	**Country**
Rectors' Conference of the Swiss Universities	*Rektorenkonferenz der Schweizer Universitäten*	CRUS	CH
Research Laboratory 3s	*Superior:Skills:Solutions Unternehmensberatung GmbH*	3s	AT
Romandie	*Romandie/Westschweiz*		
School-based VET	*Berufsbildendes Schulwesen*		
Science, technology, engineering, and math	*Mathematik, Informatik, Naturwissenschaft und Technik (MINT)*	STEM	
Short certified VET programs for more practically skilled young people (usually two years)	*Attestlehre*		CH
Social Democratic Party of Austria	*Sozialdemokratische Partei Österreichs*	SPÖ	AT
Socio-economic status	*Sozioökonomischer Status*	SES	
Specialized academic upper-secondary school	*Berufliches Gymnasium* or *Fachgymnasium*		DE
Specialized Maturity Certificate	*Fachmaturität*		CH
Specialized middle school	*Fachmittelschule*		CH
Specialized Middle School Certificate	*Fachmittelschulausweis*		CH
State Secretariat for Education and Research	*Staatssekretariat für Bildung und Forschung*	SBF	CH
State Secretariat for Education, Research and Innovation	*Staatssekretariat für Bildung, Forschung und Innovation*	SBFI	CH
Supra-company apprenticeship training	*Überbetriebliche duale Ausbildung*		AT
Swiss Conference of Cantonal Ministers of Education	*Schweizerische Konferenz der kantonalen Erziehungsdirektoren*	EDK	CH
Swiss Employers' Association	*Schweizerischer Arbeitgeberverband*	SAV	CH
Swiss Farmer's Association	*Schweizerischer Bauernverband*	SBV	CH
Swiss Federal Office for Industry, Trade, and Labor	*Bundesamt für Industrie, Gewerbe und Arbeit*	BIGA	CH
Swiss Federation of Trade Unions	*Schweizerischer Gewerkschaftsbund*	SGB	CH
Swiss Trade Association	*Schweizerischer Gewerbeverband*	SGV	CH
Teaching professions	*Unterrichtsberufe*		
The Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany	*Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland*	KMK	DE

English term	*German term*	Abbrevi-ation	Coun-try
Theological college	*Theologische Hochschule*		
Third-chance education	*Dritter Bildungsweg*		
Trade associations	*Wirtschaftsverbände*		
Trade law	*Gewerbeordnung*		AT
Training workshops	*Lehrwerkstätten*		AT
University of applied sciences	*Fachhochschule/Hochschule für angewandte Wissenschaften*	FH	
University of applied sciences entrance qualification	*Fachhochschulreife*		DE
University of teacher education	*Pädagogische Hochschule*	PH	
University of Vienna	*Universität Wien*	Univie	AT
VET schools (Austria)	*Berufsbildende Mittlere Schulen*	BMS	AT
Vocational academy	*Berufsakademie*	VA	DE
Vocational baccalaureate	*Berufsmaturität/Berufsmatur* (in Austria also *Berufsreifeprüfung*)	In AT: BRP	AT, CH
Vocational baccalaureate school	*Berufsmaturitätsschule*		CH
Vocational principle	*Berufsprinzip*		
Vocational school	*Berufsschule*		
Vocational secondary school	*Berufsmittelschule*		CH
Vocational Training Act	*Berufsbildungsgesetz*	BBiG	DE
Vocationally-oriented secondary school	*Fachoberschule*		DE

11.7 Abbreviations

Table 39: List of abbreviations

AHS	*Allgemeinbildende höhere Schule* (academic secondary school)
AK	*Österreichische Arbeiterkammer* (Austrian Chamber of Labor)
ANKOM	*Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge* (recognition of vocational competences as an element in HE programs)
APCL	Accreditation of Prior Certified Learning
APEL	Accreditation of Prior Experiential Learning
AT	Austria
BBiG	*Berufsbildungsgesetz* (Vocational Training Act)

BBT	*Bundesamt für Berufsbildung und Technologie* (Federal Office for Professional Education and Technology)
BDP	*Bürgerlich-Demokratische Partei Schweiz* (Democratic Party of Switzerland)
BHS	*Berufsbildende höhere Schule* (higher vocational school with higher education entrance qualification)
BIBB	*Bundesinstitut für Berufsbildung* (Federal Institute for Vocational Education and Training)
BMBF	*Bundesministerium für Bildung und Forschung* (Federal Ministry of Education and Research)
BMS	*Berufsmaturitätsschulen* (vocational baccalaureate school)
BMUKK	*Bundesministerium für Unterricht, Kunst und Kultur* (Federal Ministry for Education, the Art and Culture)
BMWF	*Bundesministerium für Wissenschaft und Forschung* (Federal Ministry of Science and Research)
BMWFJ	*Bundesministerium für Wirtschaft, Familie und Jugend* (Federal Ministry for Economy, Family and Youth)
BRP	*Berufsreifeprüfung* (vocational baccalaureate)
CDU	*Christlich Demokratische Union Deutschlands* (Christian Democratic Union)
CEDEFOP	European Centre for the Development of Vocational Training
CH	Switzerland
CME	Coordinated market economy
COMECON	Council for Mutual Economic Assistance
CRUS	*Rektorenkonferenz der Schweizer Universitäten* (Rectors' Conference of the Swiss Universities)
CVP	*Christlichdemokratische Volkspartei der Schweiz* (Christian Democratic People's Party)
DACH	*Deutschland* (D), *Österreich* (A), *Schweiz* (CH) (Germany, Austria, Switzerland)
DBFH	*Duale Berufsausbildung und Fachhochschulreife* (dual apprenticeship training and university of applied sciences entrance qualification)
DE	*Deutschland* (Germany)
DQR	*Deutscher Qualifikationsrahmen* (German Qualification Framework)
EBMK	*Eidgenössische Berufmaturitätskommission* (Federal Commission for the Vocational Baccalaureate)
ECTS	European Credit Transfer System
ECVET	European Credit System for Vocational Educational and Training
EDK	*Schweizerische Konferenz der kantonalen Erziehungsdirektoren* (Swiss Conference of Cantonal Ministers of Education)
EDV	*Eidgenössisches Volkswirtschaftsdepartement* (Federal Department of Economic Affairs)
EEA	European Economic Area
EEC	European Economic Community
EQAVET	European quality assurance framework for VET
EQF	European Qualification Framework
ETH	*Eidgenössische Technische Hochschule* (Federal Institute of Technology)
FDP	*Freie Demokratische Partei* (Free Democratic Party)
FH	*Fachhochschule* (university of applied science)
FHIVET	Swiss organizational configuration of universities of applied sciences (*Fach-hochschulen*, FH) that directly build on initial vocational education and training (IVET)
FPÖ	*Freiheitliche Partei Österreichs* (Freedom Party of Austria)

FRG	Federal Republic of Germany
GATS	General Agreement on Trade in Services
GDR	German Democratic Republic
HE	Higher education
HIS	*Hochschul-Informations-System* (Higher Education Information System)
HLFL	*Höhere land- und forstwirtschaftliche Lehranstalt* (higher vocational school for agriculture and forestry)
HRK	*Hochschulrektorenkonferenz* (Geman Rectors' Conference)
HTL	*Höhere technische und gewerbliche Lehranstalt* (higher vocational school for technology and commerce)
HWK	*Handwerkskammer* (Chamber of Crafts)
Ibw	*Institut für Bildungsforschung der Wirtschaft* (Institute of Research on Qualifications and Training of the Austrian Economy)
IG Metall	German Metalworkers' Union
IHK	*Deutscher Industrie- und Handelskammertag* (Association of German Chambers of Industry and Commerce)
ISCED	International Standard Classification of Education
IV	*Industriellenvereinigung* (Federation of Austrian Industries)
IVET	Initial vocational education and training
KFH	*Rektorenkonferenz der Fachhochschulen der Schweiz* (Rectors' Conference of the Swiss Universities of Applied Sciences)
KMK	*Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland* (The Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany)
KV	*Kaufmännischer Verband* (Association of Commercial Employees)
LG	Lukas Graf
LM	Labor market
LME	Liberal market economy
No.	Number
NQF	National Qualification Framework
OdA	*Organisationen der Arbeitswelt* (Professional Organizations from the World of Work)
OECD	Organisation for Economic Cooperation and Development
ÖGB	*Österreichischer Gewerkschaftsbund* (Austrian Trade Union Federation)
OMC	Open Method of Coordination
ÖVP	*Österreichische Volkspartei* (Austrian People's Party)
PET	Professional Education and Training
Post-sec.	Post-secondary
SAV	*Schweizerischer Arbeitgeberverband* (Swiss Employers' Association)
SBBK	*Schweizerische Berufsbildungsämterkonferenz* (Conference of the Swiss Cantonal Vocational Training Departments)
SBF	*Staatssekretariat für Bildung und Forschung* (State Secretariat for Education and Research)
SBFI	*Staatssekretariat für Bildung, Forschung und Innovation* (State Secretariat for Education, Research and Innovation)
SBV	*Schweizerischer Bauernverband* (Swiss Farmers' Association)
SGB	*Schweizerischer Gewerkschaftsbund* (Swiss Federation of Trade Unions)
SGV	*Schweizerische Gewerbeverband* (Swiss Trade Association)
SME	Small and medium-sized firm

SP	*Sozialdemokratische Partei der Schweiz* (Social Democratic Party of Switzerland)
SPD	*Sozialdemokratische Partei Deutschlands* (Social Democratic Party)
SPÖ	*Sozialdemokratische Partei Österreichs* (Social Democratic Party of Austria)
SQUF	*Arbeitgeber-Netzwerk für Berufsbildung* (Employer Network for Vocational Education and Training)
STEM	Science, technology, engineering, and math
SVP	*Schweizerische Volkspartei* (Swiss People's Party)
UK	United Kingdom
Upper-sec.	Upper-secondary
VET	Vocational education and training
VoC	Varieties of Capitalism
WKO	*Wirtschaftskammer Österreich* (Austrian Federal Economic Chamber)

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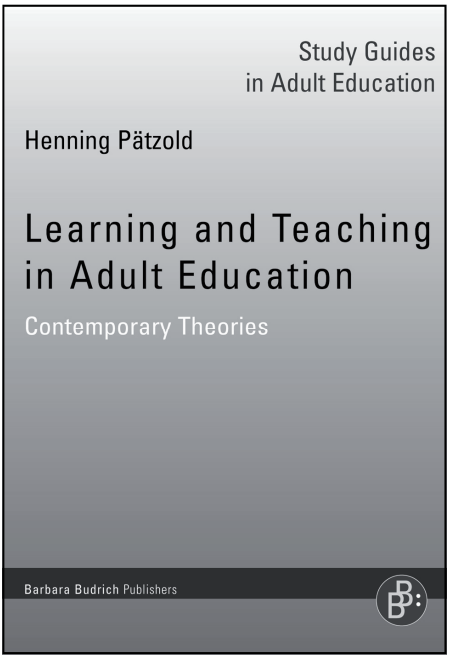
13. INDEX

Learning and Teaching



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