

Background documentation: Expert survey on diversity of VET systems in OECD countries

Raphaela Schlicht-Schmälzle

Marius R. Busemeyer

University of Konstanz, 2013

Introduction

The central goal of the present paper is to describe the institutional set-up of their Vocational Education and Training (VET) systems from a comparative perspective in a broad set of 21 OECD member states in an encompassing and detailed manner. In contrast to other sectors of the education system such as higher education, the governance structure of VET systems is much less studied from an international comparative perspective. The Varieties of Capitalism (VoC) literature (Estévez-Abe et al. 2001; Hall and Soskice 2001) broadly distinguishes between general skill systems with a focus on academic education and specific skill systems geared towards the provision of vocational skills. More recently, scholars have pointed out that the broad labels of the VoC literature need to be amended, because they mask a significant variation of skill formation systems within the group of coordinated market economies (Anderson/Hassel 2007; Busemeyer 2009; Streeck 2011). This argument builds on earlier attempts to group and classify training systems (Blossfeld 1992; Crouch et al. 1999; Greinert 1993; Lynch 1994). These early attempts largely identified three ideal-typical models of governance in VET systems (cf. Crouch et al. 1999: 25-29; Greinert 1993), depending on whether the state, markets or corporatist associations play the leading part in the provision and financing of vocational education and training. However, these early contributions were largely based on the study of individual country cases and did not provide a quantitative measure of differences across countries.

The present paper aims to fill these gaps in the literature. First, on the basis of a large expert survey, we derive the dominant VET program types in the OECD countries and have a deeper look on the constitution of apprenticeship systems: employer involvement, role of social partners, and public commitment/standardization (Anderson/Hassel 2007; Busemeyer 2009; Busemeyer/Trampusch 2011). In this, we move significantly beyond the state of the art in the literature by providing a measuring rod that helps to place countries in a macro-level comparative context.

To provide an overview on the remainder of the paper: In the next section, the expert survey and its main contents are described we first describe the expert survey and the collection of our data on the VET systems in the OECD. In section 3 we have a deeper look on the diversity of apprenticeship systems in countries where this program type plays a relevant role. We conclude with a typology of apprenticeship systems in the OECD world and a discussion of future research.

Measuring the variety of VET systems – an expert survey

The collection of high-quality and comparative data on education systems is notoriously difficult (Heidenheimer 1996). Since the mid-1990s, the OECD has put a lot of effort into developing a comprehensive database on all

aspects of education systems, such as levels of public private spending, patterns of enrolment, rates of return to human capital investments, educational output, etc. However, the OECD Education Statistics database only provides little comparative data on the diversity of vocational education and training systems. One reason for this is that VET systems are inherently more complex and more varied in their governance structure than other sectors of the education system. As we will see below, some VET systems are fully integrated into the secondary school system, whereas others are closer to the labor market. In some countries, such as the United Kingdom, training is provided by specialized private training providers (but often paid with public moneys), whereas in Germany, apprentices are part of the regular workforce. The OECD database does provide some data on patterns in upper secondary school enrolment, however (OECD 2010: 305). One problem with this data is that initial VET is sometime treated as upper-secondary, sometimes as post-secondary or even as lower-secondary education. Also, the OECD data on the share of students in combined school- and workplace-based training schemes (i.e. apprenticeships) has a lot of missing values, because of the inherent difficulties of comparison. Furthermore, the OECD data does not distinguish different degrees of employer involvement, e.g. to what extent employers are involved in the definition of the content of VET programs. In short, the existing OECD data is not sufficiently fine-grained, potentially biased because it does not take into account qualitative differences in the institutional structure of VET systems, and simply not available for a large number of countries. Therefore, we conducted an expert survey on VET systems ourselves.¹

Design of the Survey

Survey participants have been selected depending on their expertise in the VET system of a specific country. We especially asked authors of scientific articles on VET systems but also practitioners to answer the questionnaire on a specific country. Finally, we invited 193 experts in 23 OECD member states by print mail to participate in the online questionnaire.² The experts also received several reminder emails and had time to participate from 27th of April 2011 to 10th of July 2011.

The questionnaire includes 20 questions that mainly referred to the main program types, the impact of employers and social partners on VET, public commitment, and standardization of VET. Before answering these questions, participants had to identify their names and the country for which they answer the questionnaire. For each question we provided several answer opportunities, which described the situation in the countries in a detailed

¹ At this point, special thanks go to our excellent research assistants: Anne-Sophie Fendrich and Adrian Rinscheid.

² Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States of America. The experts received online codes for their access to the online questionnaire. See complete list of experts in the online appendix.

and encompassing manner. Moreover, we provided the opportunity to comment on each question even more detailed in a comments box below the question.

We ended up with 99 conducted questionnaires. The number of participants however hugely varies between the OECD member states (cp. table 1). While 10 questionnaires have been conducted for Germany (Australia), only 1 has been filled out for Finland, Iceland, and the United States. Thus we have at least one answer for each country. However countries for which we only have a single answer or were we find a strong within country variation of the answers should be evaluated with caution. On an average we have a little more than 4 answers per country. We received no answers for New Zealand and Spain.

Table 1: Expert answers per country

Country	Frequency	Percent
Australia	8	8.79
Austria	6	6.59
Belgium	4	4.4
Canada	5	5.49
Denmark	7	7.69
Finland	1	1.1
France	4	4.4
Germany	10	10.99
Greece	3	3.3
Iceland	1	1.1
Ireland	2	2.2
Italy	4	4.4
Japan	6	6.59
Luxembourg	2	2.2
Netherlands	5	5.49
Norway	3	3.3
Portugal	2	2.2
Sweden	6	6.59
Switzerland	5	5.49
United Kingdom	6	6.59
United States of America	1	1.1

Diversity of VET program types

The first question in the survey attached the general organization of the VET system: Which program type – apprenticeship, school based education, raw firm based education, or general education in comprehensive schools – is the dominant type in the specific country (cp. table 2). Apprenticeships as the dominant program type would indicate a strong firm involvement in VET systems but also a strong collaboration between firms on the one hand and the state as well as employer and employee associations on the other hand which provide additional school based education. In these cases we would have to deal with collective skill formation systems in which private employers, the state (public commitment) and associations collaborate in the organization of

VET. Countries that can clearly identified as apprenticeship-based VET systems are Denmark (7/7 experts), Germany (9/10 experts), Luxembourg (2/2 experts), Norway (3/3 experts), and Switzerland (5/5 experts). Furthermore, for Iceland we received answers from only 1 expert who also defined the apprenticeship as the dominant VET program type in Iceland. Austria is also often supposed to be apprenticeship based. However, only 2 of 5 experts identified the apprenticeship as the dominant program type in Austria.

Countries that can be clearly identified as school based VET system are France (3/3 experts), Greece (3/3 experts), and Netherlands (5/5 experts). Furthermore, Finland is also defined as school-based VET systems by a single expert. In these countries, VET takes place in vocational schools that provide certificates for specific occupations. Work-place training however plays a minor role.

In firm based VET systems, participants are exclusively trained at their specific work place in a firm for the special needs of their employer. The received skills are highly specific and only weakly transferable to other employers. There is only one country, the United States of America, which is defined as a firm-based VET system. However, this evaluation has to be treated with caution since it is based on the knowledge of only one expert. No country is clearly defined as VET system that takes generally place in general comprehensive schools with vocational tracks. Ireland is moreover defined as a VET system with no dominant program type (2/2 experts). Thus, VET in Irelands seems to be highly heterogeneous. Conclusively, the most dominant program types within the OECD seem to be the apprenticeship systems and the VET school based systems.

Table 2: Number of experts who claimed a specific program type as the dominant program type in a country

Country	The largest share of VET takes place in specific vocational education schools and ends with a specific vocational educational certificate	The largest share of VET takes place in apprenticeships (combined school- and work-based programs)	The largest share of VET takes place in firm-based training (without any school-based vocational education)	The largest share of VET takes place in general/comprehensive high schools with specific vocational training tracks, leading to a general high school degree	There is no dominant program type in (country of interest)'s vocational education system but a great variety of different system types
	Vocational Schools	Apprenticeships	Firm-based	General schools with vocational tracks	No dominant program type
Australia	3	3	0	0	1
Austria	0	2	0	0	3
Belgium	1	1	0	0	2

Canada	1	0	0	2	2
Denmark	0	7	0	0	0
Finland	1	0	0	0	0
France	3	0	0	0	0
Germany	0	9	0	0	1
Greece	3	0	0	0	0
Iceland	0	1	0	0	0
Ireland	0	0	0	0	2
Italy	3	0	0	0	1
Japan	1	0	3	2	0
Luxembourg	0	2	0	0	0
Netherlands	5	0	0	0	0
Norway	0	3	0	0	0
Portugal	1	0	0	0	1
Sweden	1	0	0	4	0
Switzerland	0	5	0	0	0
United Kingdom	3	0	2	0	1
United States of America	0	0	1	0	0

Nevertheless, several countries remain unclear with regard to their dominant program type: Australia, Austria, Belgium, Canada, Italy, Japan, Portugal, Sweden, and UK. The VET systems of these countries therefore have to be evaluated with caution. For the most of these countries (7/9) at least one expert evaluated that there is no dominant program type what may explain the disagreements between the experts within these countries. Three experts have defined Australia as a school based system, three experts as an apprenticeship system, and one expert as a system without a dominant program type. For Austria, two of five experts evaluated the Austrian VET system as an apprenticeship system while the other three experts defined no dominant program type. Belgium is defined by one expert as a school based system, by another expert as an apprenticeship systems, and be two experts as a VET system with no dominant program type. Japan has been defined as a school-based system by one expert, by three experts as a firm based system, and by two experts as a VET system that is integrated in the general school system with vocational tracks. Also United Kingdom can be allocated to the VET systems with no dominant program type. Three of six experts defined it as a school based system, two as a firm-based system, and one defined UK as a VET system with no dominant program type. Based on this information it is reasonable to evaluate Australia, Austria, Belgium, Japan, and United Kingdom as system without a dominant program type.

Canada is defined by one expert as a school based system, by two experts as a VET system which is integrated in the general school system, and by two experts as a VET system with no dominant program type. Based on this information, we assume that experts of Canada, do not decisively distinguish between school based VET and VET that is integrated in the general school system. We therefore, define Canada as a school system which is school based with different characters (vocational schools and general schools with vocational tracks).

Italy has been defined by three experts as a school based VET system but by one expert as a system with no dominant program type. With a high share of uncertainty we therefore allocate Italy to the school based VET systems. Even though we have different data on Sweden, it is pretty reasonable to allocate Sweden to the school based VET system with either vocational schools or general schools with vocational tracks. One of the five experts evaluated Sweden as a school based system with vocational schools while the other four experts defined it as a VET system that is fully integrated in the general school system based on vocational tracks in upper secondary education.

Portugal is the only school system we cannot allocate at all to one of the four categories. One of the two experts defined it as a school based system while the other one evaluates Portugal as a VET system with no dominant program type. Based on this information Portugal cannot be seriously categorized and has to remain an uncertain case.

Depending on these arguments the picture of the dominant VET system types in the OECD alters a little (figure 1 and table 3): The most dominant VET system type within the OECD is the school based VET system (seven countries), either organized in vocational schools or integrated in the general upper-secondary education schools with vocational tracks. Two further relevant VET systems within the OECD covering six country cases each are: the apprenticeship systems and the VET system without any dominant program type. Only one system can be defined as raw firm-based.

Figure 1: The dominant VET program types within the OECD

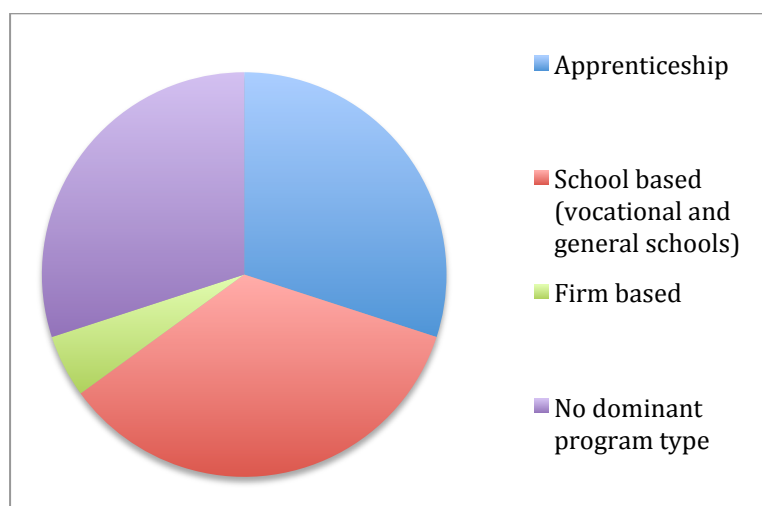


Table 3: Dominant VET program type per country

Country	VET system Type
Australia	No dominant program type
Austria	No dominant program type
Belgium	No dominant program type
Canada	School based
Denmark	Apprenticeship
Finland	School based
France	School based
Germany	Apprenticeship
Greece	School based
Iceland	Apprenticeship
Ireland	No dominant program type
Italy	(School based, with uncertainty)
Japan	No dominant program type
Luxembourg	Apprenticeship
Netherlands	School based
Norway	Apprenticeship
Portugal	Unclear
Sweden	School based
Switzerland	Apprenticeship
United Kingdom	No dominant program type
United States of America	Firm based

Diversity of apprenticeship systems within the OECD

After defining the dominant program types in the OECD VET systems, it is worthy to have a deeper look on the single VET system types. Since our survey had a strong focus on the organization of apprenticeships the following descriptions will focus on countries where apprenticeships are the dominant program type and on countries that do not have a dominant program type but provide apprenticeships as a common and popular opportunity: Australia, Austria, Belgium, Denmark, Germany, Ireland, Norway, Switzerland, and United

Kingdom (see appendices 1 and 2).³ The following descriptions of the apprenticeship systems are focused on the main communalities and differences with regard to the involvement of employers, the role of social partners, and public commitment/standardization of VET.

The involvement of employers in the apprenticeship system

In general, the apprenticeship system opposed to the school based system provides a strong involvement of employers in the provision of VET. Nevertheless, the degree and kind of employer involvement may vary among apprenticeship systems. First of all, in all the observed countries – except Belgium – participants of a combined work- and school-based program have a contract with an employer and receive a wage (see table 4). Furthermore, in the most countries – except United Kingdom – apprenticeships at least last 2 years (see table 5).

Table 4: Wage and contract of apprentices (number of experts who marked a specific category)

Country	I do not know	Participants of a combined work- and school-based program mostly have a contract with an employer and receive a wage.	Participants of a combined work-and school-based program mostly have a contract with an employer but do not receive a wage and are funded by public subsidies.	Participants of a combined work- and school-based program are registered as students in a specific vocational and/or secondary school that provides vocational education and is responsible for the administration of workplace-based training.	Not applicable, i.e. no apprenticeship system.
Australia	0	6	0	1	0
Austria	0	6	0	0	0
Belgium	0	1	0	2	0
Denmark	0	6	0	0	0
Germany	0	10	0	0	0
Ireland	0	2	0	0	0
Norway	1	2	0	0	0
Switzerland	0	5	0	0	0
United Kingdom	2	4	0	0	0

³ Most remarkable, the same experts who stated that apprenticeships are the dominant program type in Iceland and Luxembourg claim that it is not a common program type and not a popular choice. In Japan, where no dominant program type exists, apprenticeships do not seem to be popular and common (see appendices 1 and 2). Therefore, we exclude Japan in the following descriptions of the apprenticeship systems.

Table 5: Duration of apprenticeships (number of experts who marked a specific category)

Country	I do not know	Apprenticeship programs usually last at least 2 years.	Apprenticeship or similar workplace-based programs last less than 2 years.	Not applicable, i.e. no apprenticeship system.
Australia	1	6	0	0
Austria	0	6	0	0
Belgium	0	4	0	0
Denmark	0	7	0	0
Germany	1	9	0	0
Ireland	0	2	0	0
Norway	0	3	0	0
Switzerland	0	5	0	0
United Kingdom	1	2	3	0

It is moreover interesting whether the employers are the official providers of the apprenticeships (table 6). In all countries but Australia, Belgium, and Ireland, employers are providers of apprenticeships. In Australia, Belgium and Ireland the situation is less clear: Several experts claim that vocational or secondary schools provide the apprenticeship and practical training takes place in out-of-firm workshops or short-term internship.

Table 6: Providers of apprenticeships (number of experts who marked a specific category)

Country	I do not know	The employers are providers of apprenticeships, i.e. apprenticeship training is integrated into the regular process. The provision of training is not the primary purpose of the training firm.	Specific trainings firms/ training organizations provide practical training in a workplace-based setting.	Vocational or secondary schools provide the apprenticeship and practical training takes place in out-of-firm workshops or short-term internship.	Not applicable, i.e. no apprenticeship system.
Australia	1	3	0	2	0
Austria	0	6	0	0	0
Belgium	0	1	1	2	0
Denmark	0	7	0	0	0
Germany	0	10	0	0	0
Ireland	0	1	0	1	0
Norway	0	3	0	0	0
Switzerland	0	5	0	0	0
United Kingdom	2	4	0	0	0

To sum up (table 7), we find high levels of employer involvement in Austria, Denmark, Germany, Norway, and Switzerland, moderate levels in Australia, Ireland, and United Kingdom, and low levels of employer involvement in Belgium.

Table 7: Levels of employer involvement in VET

Country	Apprentices receive a wage and have a contract with the employer	Apprenticeships last at least two years	Employers are the providers of apprenticeships	Sum	Levels of employer involvement
Australia	1	1	0	2	moderate
Austria	1	1	1	3	high
Belgium	0	1	0	1	low
Denmark	1	1	1	3	high
Germany	1	1	1	3	high
Ireland	1	1	0	2	moderate
Norway	1	1	1	3	high
Switzerland	1	1	1	3	high
United Kingdom	1	0	1	2	moderate

The Role of social partners in apprenticeship systems

Table 8 shows that social partners at least play an advisory role in almost all observed countries. In Austria, Denmark, and Switzerland, social partners (employer associations and unions) clearly have a strong impact since they directly determine the content of apprenticeships. In Belgium, Germany, Ireland, and Norway the situation is less clear since experts are heterogeneous in their information on whether social partners have a direct impact or rather have an advisory role. In United Kingdom social partners are clearly restricted to an advisory role in content setting of apprenticeships.

Table 8: Role of Social Partners (number of experts who marked a specific category)

Country	I do not know	The content of the apprenticeships is determined jointly by the social partners (employer associations and unions)	The content of the apprenticeships is determined by single employers and/or employer associations during the training process	Public institutions set the content of the apprenticeships, but social partners have an advisory role	Not applicable, i.e. no apprenticeship system
Australia	0	3	0	4	0
Austria	0	3	0	1	0
Belgium	0	2	1	1	0
Denmark	0	6	0	1	0
Germany	0	5	1	4	0
Ireland	0	1	0	1	0
Norway	0	1	0	2	0
Switzerland	0	4	0	1	0
United Kingdom	0	0	2	4	0

Moreover, table 9, elucidates that in most countries, the apprentices' wages are part of regular collective wage bargaining or employers usually follow recommendations of corporatist or public institutions: Australia, Austria, Denmark, Germany, Norway. In Switzerland and United Kingdom two experts claim that the apprentices' wages are based on bargaining between individual apprentices and the training firm. In Ireland public institutions regulate apprentices' wages; social partners play an advisory role at best. In Belgium, experts are not homogeneous with regard to the rule of wage setting in apprenticeships.

Table 9: Apprenticeship wages as part of collective wage bargaining (number of experts who marked a specific category)

Country	I do not know	The apprentices' wages are part of regular collective wage bargaining or employers usually follow recommendations of corporatist or public institutions	The apprentices' wages are based on bargaining between individual apprentices and the training firm	Public institutions regulate apprentices' wages; social partners play an advisory role at best	Not applicable, i.e. no apprenticeship system
Australia	0	5	1	1	0
Austria	0	5	0	0	0
Belgium	0	1	1	2	0
Denmark	0	5	1	1	0
Germany	1	9	0	0	0
Ireland	1	0	0	1	0
Norway	0	3	0	0	0
Switzerland	1	2	2	0	0
United Kingdom	1	3	2	0	0

To sum up (table 10), the role of social partners in VET is high in Austria and Denmark, moderate in Germany, Norway, and Switzerland, low to moderate in Australia, and low in Belgium, Ireland, and United Kingdom.

Table 10: Summing up the role of social partners in VET

Country	Role of social partners in the organization of VET	Apprentices wages are part of regular collective wage bargaining	Sum	Role of social partners
Australia	-	1	1(?)	low/moderate
Austria	1	1	2	high
Belgium	0.5	-	0.5(?)	low
Denmark	1	1	2	high
Germany	0.5	1	1.5	moderate
Ireland	0.5	0	0.5	low
Norway	0.5	1	1.5	moderate
Switzerland	1	0.5	1.5	moderate
United Kingdom	0	0.5	0.5	low

Public commitment and standardization

First and foremost, public commitment to the apprenticeship systems seems to be high in Australia, Belgium and Ireland, since vocational or secondary schools provide the apprenticeships and practical training takes place in out-of-firm workshops or short-term internships (cp. table 6). Nevertheless, in this regard public commitment has to be seen as an opposite to employer involvement.

With regard to public commitment to the apprenticeship system it is moreover relevant whether apprentices receive public financial aid during VET. Table 11 shows that in Denmark and Ireland, public commitment is high since apprentices generally receive public scholarships or subsidies. In Austria, Germany and United Kingdom Participants of vocational education receive public scholarships or subsidies on a welfare basis, if they cannot make a living on their own. The situation is less clear in Australia, Norway, and Switzerland. In Australia four of five experts state that participants of vocational education receive public scholarships or subsidies at least on a welfare basis, if they cannot make a living on their own. In Norway Participants of vocational education receive public scholarships or subsidies however it is not clear whether they receive it on a welfare basis, if they cannot make a living on their own or generally. In Switzerland, experts are quite heterogeneous with regard to their statements: Two experts state that there are no public scholarships or subsidies for participants in vocational training. Two other experts claim Participants of vocational education generally receive public scholarships or subsidies. For Belgium, the majority of experts state that there is no public financial aid for participants in VET:

Table 11: Public financial aid for participants in VET

Country	Participants of vocational education receive public scholarships or subsidies	Participants of vocational education receive public scholarships or subsidies on a welfare basis, if they cannot make a living on their own	There are no public scholarships or subsidies for participants in vocational training
Australia	2	2	1
Austria	1	3	0
Belgium	1	0	3
Denmark	5	0	0
Germany	1	7	0
Ireland	1	0	0
Norway	1	1	0
Switzerland	2	0	2
United Kingdom	1	3	1

With regard to public commitment in VET it is moreover interesting how the mobility between vocational education and higher education is organized. In Belgium, a vocational education certificate formally provides access to higher/tertiary education (table 12). In Germany and Switzerland, A vocational education certificate provides access to occupation specific higher/tertiary education (tertiary vocational education and training). In Ireland and Norway the situation is less clear, since experts do not agree on whether vocational education certificates do generally not provide access to higher/tertiary education or whether they provide access to occupation specific higher/tertiary education (tertiary vocational education and training). In Australia, Austria, Denmark, and United Kingdom, experts agree that VET certificates provide access to higher education however they are unspecific on whether this access is general or just occupation specific.

Table 12: Mobility between vocational and higher education (number of experts that voted for a specific category)

Country	A vocational education certificate does not provide access to higher/tertiary education	A vocational education certificate provides access to occupation specific higher/tertiary education (tertiary vocational education and training)	A vocational education certificate formally provides access to higher/tertiary education	I do not know
Australia	1	3	3	1
Austria	1	2	3	0
Belgium	0	0	4	0
Denmark	1	3	3	0
Germany	4	5	0	1
Ireland	1	1	0	0
Norway	1	2	0	0
Switzerland	0	5	0	0
United Kingdom	1	3	2	0

A further point is the statist standardization of VET (table 13). In all countries, there seems to be a certain degree of standardization in VET. In Norway and United Kingdom, the situation in this regard seems to be fuzzy, according to the diverse statements of the experts. In Australia, Austria, Belgium, Denmark, and Ireland, the majority of the experts claims that there is a considerable degree of standardization, but individual training providers (firms, schools, training centers) have significant leeway to implement specific needs. In these countries, standardization is thus medium high and employers still have a certain impact. In Germany by contrast, standardization seems to be high since the content of VET is highly regulated and standardized independent of the learning context. Even though experts of Switzerland’s VET claim that there are certain standardizations of VET, they do not agree how strong the impact of employers is opposed to this standardization.

Table 13: Standardization of VET (number of experts that voted for a specific category)

Country	High: The content of VET is highly regulated and standardized independent of the learning context.	Medium: There is a considerable degree of standardization, but individual training providers (firms, schools, training centers) have significant leeway to implement specific needs.	Low: The content of VET programs differs largely across learning contexts.
Australia	2	4	1
Austria	2	4	0
Belgium	0	3	1
Denmark	3	4	0
Finland	0	0	1
Germany	5	4	0
Ireland	0	2	0
Norway	0	2	1
Switzerland	2	2	0
United Kingdom	3	0	3

To sum up (table 14), public commitment in and standardization of VET are high in Australia and Ireland, moderate in Austria, Belgium, Denmark, and Germany and low in Norway, Switzerland, and United Kingdom.

Table 14: Public commitment in and standardization of VET

Country	State as the provider of the apprentice ships	Financial aid for participants in VET	Mobility between vocational and higher education	Standardization of VET	Sum	Levels of public commitment and standardization
Australia	1	0.5	0.5	0.5	2.5	high
Austria	0	0.5	0.5	0.5	1.5	moderate
Belgium	1	0	1	0.5	2.5	high
Denmark	0	1	0.5	0.5	2	moderate
Germany	0	0.5	0.5	1	2	moderate
Ireland	1	1	-	0.5	2.5	high
Norway	0	0.5(-1)	-	-	0.5	low
Switzerland	0	-	0.5	0.5	1	low
United Kingdom	0	0.5	0.5	-	1	low

Conclusions

With a broad and encompassing expert survey on VET systems in the OECD member states we for the first time provide detailed information on the differences and commonalities of national VET systems. In a first section of this paper we show that national VET system first and foremost differ with regard to the dominant program types: school based, apprenticeship based, or firm-based VET systems or systems that do not have dominant

VET system type. We show that the most dominant VET system type within the OECD is the school based system, followed by the apprenticeship based system type and the countries which do not provide a dominant VET system type. In a further step we focus on these VET systems in which apprenticeships are the dominant program type or are a common and popular opportunity for VET. This is mainly reasoned by the focus of our survey on apprenticeships systems. In our descriptions we focus on mainly three dimensions: employer involvement, role of social partners, and public commitment/standardization. We find strong variation among the OECD member states regarding these dimensions. Based on these differences we can distinguish four types of apprenticeship systems (table 15): 1. The collective system (strong employer involvement and high or moderate role of social partners and moderate public commitment/standardization): Austria, Denmark, and Germany. 2. A modification of the collective system (Collective II), which is also dominated by cooperation between employers and associations but characterized by weak public commitment/standardization: Norway and Switzerland. 3. The statist system, which is characterized by strong public commitment/standardization, weak role of social partners and a weak or moderate employer involvement: Australia, Belgium, Ireland. 4. The system of the United Kingdom, which tends toward the firm based VET system with moderate employer involvement and weak public commitment/standardization and a weak role of the social partners. We can thus identify different shades of apprenticeship systems among the OECD member states. Thereby it is remarkable, that the apprenticeship types systematically differ between the countries that have apprenticeships as dominant program types and countries that do not have a dominant program type. In countries with apprenticeships as dominant program type, the apprenticeship systems are collective (Denmark, Germany, Norway, Switzerland). In countries that do not have a dominant program type, the apprenticeship systems are mainly based on statist influence (except Austria and United Kingdom).

Table 15: Apprenticeship systems within the OECD

Country	Employer involvement	Role of social partners	Public commitment and standardization	Apprenticeship system type
Australia	moderate	low/moderate	high	Statist
Austria	high	high	moderate	Collective
Belgium	low	low	high	Statist
Denmark	high	high	moderate	Collective
Germany	high	moderate	moderate	Collective
Ireland	moderate	low	high	Statist
Norway	high	moderate	low	Collective II
Switzerland	high	moderate	low	Collective II
United Kingdom	moderate	low	low	Tendency towards firm based VET systems

Appendix 1: Number of experts who state that apprenticeships are a popular choice in general, a popular choice for those who do not have access to higher education, or apprenticeships are not a popular choice at all.

Country	Yes.	Only for those who do not have formal access to higher education.	No, not at all.
Australia	2	3	2
Austria	3	1	2
Belgium	0	3	1
Denmark	1	2	3
Germany	10	0	0
Iceland	0	0	1
Ireland	0	1	1
Japan	0	2	4
Luxembourg	0	0	1
Norway	1	1	0
Switzerland	4	1	0
United Kingdom	0	3	3

Appendix 2: Number of experts who state that apprenticeships are a a common program type in the traditional sectors, in all sectors or are not at all common

Country	They are mostly common in the traditional economic sectors (crafts, manufacturing, machine-building, ...).	They are also common in the service sector.	Not applicable, i.e. no apprenticeship system.
Australia	4	3	0
Austria	2	4	0
Belgium	2	2	0
Denmark	0	7	0
Germany	1	9	0
Iceland	1	0	0
Ireland	2	0	0
Japan	2	1	3
Luxembourg	0	2	0
Norway	2	1	0
Switzerland	0	5	0
United Kingdom	0	6	0

Literature

- Anderson, Karen M. and Anke Hassel. 2007. "Pathways of change in CMEs: Training regimes in Germany and the Netherlands." in *paper prepared for the American Political Science Association Meeting, Chicago, 27 August – 1 September 2007*.
- Blossfeld, Hans-Peter. 1992. "Is the German Dual System a Model for a Modern Vocational Training System?" *International Journal of Comparative Sociology* 33:168-181.
- Busemeyer, Marius R. 2007. "The determinants of public education spending in 21 OECD democracies, 1980-2001." *Journal of European Public Policy* 14:582-610.
- . 2009a. "Asset specificity, Institutional Complementarities and the Variety of Skill Regimes in Coordinated Market Economies." *Socio-Economic Review* 7:375-406.
- . 2009b. "Social democrats and the new partisan politics of public investment in education." *Journal of European Public Policy* 16:107-126.
- Busemeyer, Marius R. and Christine Trampusch. 2011. "Introduction: The Political Economy of Collective Skill Formation Systems." Pp. 3-40 in *The Political Economy of Collective Skill Formation*, edited by M. R. Busemeyer and C. Trampusch. Oxford, New York: Oxford University Press.
- . 2011. "Review Article: Comparative Political Science and the Study of Education." *British Journal of Political Science* 41:413-443.
- Crouch, Colin, David Finegold, and Mari Sako. 1999. "Are Skills the Answer? The Political Economy of Skill Creation in Advanced Industrial Countries." Oxford, New York: Oxford University Press.
- Estevez-Abe, Margarita, Torben Iversen, and David Soskice. 2001. "Social Protection and the Formation of Skills: A Reinterpretation of the Welfare State." Pp. 145-183 in *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, edited by P. A. Hall and D. Soskice. Oxford, New York: Oxford University Press.
- Greinert, Wolf-Dietrich. 1995. "Regelungsmuster der beruflichen Bildung: Tradition – Markt – Bürokratie." *BWP* 24/1995:31-35.
- Hall, Peter A. and Daniel W. Gingerich. 2009. "Varieties of Capitalism and Institutional Complementarities in the Political Economy: An Empirical Analysis." *British Journal of Political Science* 39:449-482.
- Hall, Peter A. and David Soskice. 2001. "An Introduction to Varieties of Capitalism." Pp. 1-68 in *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, edited by P. A. Hall and D. Soskice. Oxford, New York: Oxford University Press.
- Heidenheimer, Arnold J. 1996. "Throwing Money and Heaving Bodies: Heuristic Callisthenics for Comparative Policy Buffs." Pp. 13-25 in *Comparing government activity* edited by L. M. Imbeau and R. D. McKinlay. Houndmills, London: Macmillan.
- Lynch, Lisa M. 1994. "Payoffs to Alternative Training Strategies at Work." Pp. 63-95 in *Working under Different Rules*, edited by R. B. Freeman. New York: Russell Sage Foundation.
- OECD. 2010. *Education at a Glance 2010: OECD Indicators*. Paris: Organisation for Economic Co-Operation and Development.
- Pierson, Paul. 2000. "Increasing Returns, Path Dependence, and the Study of Politics." *American Political Science Review* 94:251-267.
- Ragin, Charles C. 2000. *Fuzzy Set Social Science*. Chicago: University of Chicago Press.
- . 2007. "Fuzzy Sets: Calibration versus Measurement." from <http://www.u.arizona.edu/~cragin/fsQCA/download/Calibration.pdf>.
- Schmidt, Manfred G. 2007. "Testing the retrenchment hypothesis: educational spending, 1960-2002." Pp. 159-183 in *The disappearing state? Retrenchment realities in an age of globalisation*, edited by F. G. Castles. Cheltenham, Northampton: Edward Elgar.

Streeck, Wolfgang. 2011. "Skills and Politics: General and Specific." Pp. 317-352 in *The Political Economy of Collective Skill Formation*, edited by M. R. Busemeyer and C. Trampusch. Oxford, New York: Oxford University Press.