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Approaching apprenticeship systems from a European perspective

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Søren Bo Poulsen and Christiane Eberhardt

Approaching Apprenticeship Systems from a European Perspective



No. 171

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Foreword

Finding ways to develop apprenticeships is a major concern of policy and decision makers in charge of vocational education and training in and around Europe. In many cases, the German and Danish Vocational Education and Training (VET) systems are presented as prototypes of dual apprenticeship systems that are worth copying.

In the framework of the Twinning Project with our colleagues from Ukraine, Denmark and Germany, we thought it would be even more fruitful if we presented different dual apprenticeship systems, elaborated on them and, on that basis, adapted suitable solutions of third-party interest. Our comparison develops a sound basis for reflection on legal arrangements for VETs, on the qualifications of training personnel, on the role of social partners and on the framework of qualifications. In Division 1.1: “Basic Issues of Internationalisation/Monitoring of VET-systems” at the Federal Institute for Vocational Education and Training (BIBB), we expanded the scope of our comparison by introducing examples of underlying principles, regulations and practices from other countries.

BIBB, and especially Section 1.1¹, are currently pursuing this comparative approach in ERASMUS+ projects such as the “National Authorities for Apprenticeships: Policy learning and support to promoting apprenticeship systems and VET policy experimentation” or the project “National Authorities for Apprenticeships: Companies as Sustainable Partners for Apprenticeship in Greece & Cyprus” under the European Alliance for Apprenticeship.

This paper addresses policy makers, researchers and practitioners by providing insights on different dual apprenticeship systems and by highlighting alternatives as far as the main features of dual apprenticeship systems are concerned.

Isabelle Le Mouillour

Head of Section 1.1: Basic Issues of
Internationalisation/Monitoring of VET systems

¹ <https://www.bibb.de/en/25377.php>

Background and Purpose of the Paper

An early draft of this text was created in the context of the EU Twinning project “Modernisation of legislative standards and principles of vocational education and training in line with the EU principles of lifelong learning in the Ukraine”. The project was conducted by a Danish-German consortium from January 2013 to April 2015. Its objective was to support the efforts of the Ukrainian decision-makers in vocational education and training (VET) to create stronger links between “the world of education” and the “world of work”. Information on how other European countries take up this challenge was in demand. Since the project was carried out, on the supply side, by partners from Denmark and Germany, it seemed reasonable to describe the models introduced and implemented in these countries and to look at other European countries as well – countries that are comparable and for which information was available. A first version of this review was prepared by Søren Bo Poulsen and handed for discussion and reflection to the Ukrainian ministerial working group that was reworking the Ukrainian educational legislation.

We noticed already during the preparation that the paper might also be of interest to a broader target audience. Since the economic crisis, models of work-based learning are on the upswing in Europe. Currently we are experiencing a steadily increasing interest in European and non-European countries in training models that are practice-oriented and correspond to the needs of the labour market. In view of the high youth unemployment rates in many European Union countries “apprenticeships” are assumed to be a key to providing young people with direct access to the labour market. Furthermore, apprenticeships are viewed as a sustainable model for an education system that takes the needs of the labour market into consideration and uses them for comprehensive competence development based on an occupational standard. This is profitable for the enterprises: Graduates of apprenticeships are broadly qualified and “vocationally proficient” when they take up their jobs. There are no break-in costs and no need for “on-the-job training” at recruitment time. This applies in Germany to the same extent as in Denmark.

For this reason we have decided to expand this text, which was originally intended for a specific project context, and to make it available to all interested parties. It is meant to provide initial information to those interested in apprenticeship models and therefore makes no claim to completeness. Our remarks centre on the fundamental principles, the implementation and the benefits of apprenticeships. For that purpose we drew on the models we know best: the Danish and the German one. We added information from other European contexts whenever it seemed appropriate and information was available to us – always with a view to what constitutes a “modern apprenticeship”. Since we wanted to identify trends, some of our figures are not up-to-date – for more recent figures (for Germany) please consult the Data Report of the 2015 Vocational Education and Training Report (http://www.bibb.de/dokumente/pdf/bibb_datenreport_2015.pdf) or the English-language VET Data Report 2014 (<http://www.bibb.de/veroeffentlichungen/en/publication/show/id/7722>) or, for other European countries, the sources provided by ReferNet, Eurostat, the International Labour Organisation, the OECD or UNEVOC.

If you intend to deal with the topic in greater depth, you can find a bibliography in the appendix (current as of August 2015), which includes international publications and websites related to apprenticeships, the dual system and the transfer of good practice. It was compiled by Martina Krause of the ReferNet Germany team.

Christiane Eberhardt & Søren Bo Poulsen

1 Origins and Scope of Apprenticeships

Contemporary apprenticeship systems owe much to the very early versions of the system, which is why we will take a brief look back at the history to highlight some of the key elements of the apprenticeship system. Some of the earliest traces are found in Babylon, where the Hammurabi Act of 1780 BC provides that craftsmen have a duty to train younger generations in their craft (History of Apprenticeship, <http://www.lni.wa.gov/TradesLicensing/Apprenticeship/About/History/>).

In Europe – with the exception of Russia (CEDEFOP 2010) – apprenticeships have been known since the 13th century. At that time, the craftsmen organised themselves into various professional associations called guilds, which supervised the training of apprentices and ensured that traditions and standards of the craft were observed.

The guild system was characterised by a strict hierarchy: apprentice, journeyman, master. Apprentices were accepted into a guild after a trial period that often lasted several months. The guilds defined the length of the apprenticeship, the wage and working condition of the apprentice as well as the subjects to be taught. The apprentices lived in their master's households and the masters were paid a fee for food and lodging by the apprentices' parents (CEDEFOP 2004, p. 6). The responsibility for the training rested with the individual master craftsman, who took care of both the theoretical and practical training of the apprentice. Consequently, the competence of the apprentice reflected not only the ability of the apprentice, but also the master craftsman's professional level. After a specialised examination supervised by the guild, the apprentice was "discharged" and became a journeyman.

Denmark: Early development of Apprenticeship system

1400: Guilds defined common rules for apprentices

1857: A law took the rights from the guilds

From 1862: The government encouraged local associations of craftsmen and industry to establish technical schools

1889: The Apprentice Act

1937: A revised Apprentice Act: The parity system of representation established

Journeymen's vocational qualifications were recognised in other countries. In those times it was quite common that the journeymen travelled from place to place in order to broaden their vocational competences. This can be seen as an early form of occupational mobility within Europe. After years of experience, the journeyman could submit a piece of his best work to the appropriate guild for assessment and approval. If the piece of work was accepted, the journeyman became a master craftsman. This gave him the right to set up his own workshop and to train apprentices himself.

The medieval guild training was practiced all over Europe and constituted the origin of vocational training in companies. The religious and trade-oriented Sunday schools of the 17th and 18th century and the general and trade (vocational) training schools in the 19th century are considered to be the ancestors of the VET schools of today. The alternation between company and school during apprenticeships was first codified in the Industrial Code of the territories of the North German Federation (Norddeutscher Bund) in 1869. According to Article 142, "... assistants, journeymen and apprentices, or industrial classes of the same (could be) obliged by town status to attend a further training school of the town, as long as they had not reached eighteen years

of age, and the employers and master craftsmen are obliged to allow the time required for attendance” (cited in ARNOLD/MÜNCH 1996, p. 2).

The early apprenticeship system was not just aimed at transferring skills and knowledge, but also contained an important aspect of socialisation into a particular role and position as a citizen in society. It can be seen both as an expression of a particular training tradition and as an expression of certain views on upbringing. When the young apprentice, typically a boy aged 13–14, moved in with the master craftsman, he had to live and work within the household of the master craftsman. The master craftsman assumed, to some degree, parenting responsibilities. The apprentice was – for better or worse – dependent on the master craftsman’s parenting approaches and professional abilities. Against this background, FULLER/UNWIN (1998, p. 154) highlight that apprenticeship in medieval times was “*much more about social control of youth than about economic considerations*”. The system persisted in principle until the 20th century. Over the centuries, the function of VET turned from “exerting social control” over the apprentices to “facilitating self-development”. The latter was underpinned by the works of the pedagogue Georg KERSCHENSTEINER (1854–1932), who emphasized the usefulness of the apprentice’s individual work and effort to acquire knowledge through work. His perspective on VET was based on a theory of values and he stated that one should think of “*vocational education and training as a gateway to educated mankind*” (KERSCHENSTEINER quoted by GONON 2006, p. 198).

However, the model of systematic on-the-job training in workshops and in schools, and therefore with the combination of practical and theoretical learning, was adapted for the purposes of industry in the nineteenth century. Those principles were determined for the first time in Denmark in 1889 in the “Apprenticeship Act”. In Germany, the “Declaration on the Regulation of the Apprenticeship System”, which was adopted at the 10th Congress of the German Unions in Nuremberg in 1919, can be considered a first draft of a vocational education and training scheme. It already contained essential elements of the Vocational Training Act that entered into force 50 years later, on 1 September 1969.

GREINERT points out that “*paradoxically, the process of industrialisation in Europe did not produce one uniform vocational training model. On the contrary, it more or less destroyed the roughly homogeneous craft-trade-based vocational training methods which had established themselves over the centuries, and replaced them with a myriad of ‘modern’ education systems, which at first glance seem to have very little in common*” (GREINERT in CEDEFOP 2004, p. 18). External factors like the abolition of the guild system, the differential pace of industrialisation and the influence of political, philosophical, cultural and religious movements (CEDEFOP 2004, p. 9) led to the contouring of three basic, but different types of VET in Europe, which are still in place nowadays. These “classical models” are the “liberal market model” (UK), the “state-regulated model” (France) and “the dual corporate model” (Germany, Austria, Switzerland, Denmark).

The overall objective of contemporary apprenticeship systems (as we know them e.g. from Denmark or Germany) is not significantly different from that of the medieval systems. An apprenticeship system is meant to ensure the relevance of vocational education and training (VET) to labour market needs and thus the employability of the VET graduates. School-based VET systems (which mostly follow the liberal or the state-regulated model) share the same general objective. The models differ mostly with regard to governance and steering mechanisms as well as regarding the concept of qualification. One major difference between apprenticeship and school-based systems is that in apprenticeship systems, the linkage of VET and the labour market is ensured through the purposeful and systematic exposure of the apprentices to the “real world of work” and the involvement of social partners (employer organisations and trade unions) in the design, governance and delivery of the VET. VETs are based on nationwide binding standards, which are the result of a bargaining process among social partners and national administrations.

Despite these differences, apprenticeship tracks – and consequently the clear aim to locate a large part of the learning in companies – play a role in all VET concepts. Due to this understanding of apprenticeships (alternating training between school and companies), nearly all EU countries run apprenticeship tracks within their overall VET systems.

Table 1

Existence of apprenticeship-type schemes according to their nature (company vs. school based) in the EU-27 countries

Country	Apprenticeship-type schemes at upper secondary level		Apprenticeship-type schemes at tertiary level
	Mainly company-based schemes	Mainly school-based schemes	
Austria	x	x	x
Belgium	x	x	
Bulgaria	x	x	
Cyprus	x	x	x
Czech Republic		x	x
Denmark	x		x
Estonia	x		
Finland	x	x	x
France	x	x	
Germany	x	x	x
Greece	x		
Hungary	x	x	x
Ireland	x	x	
Italy	x	x	
Latvia	x	x	x
Lithuania	x	x	
Luxembourg	x	x	
Malta	x	x	
Netherlands	x	x	x
Poland		x	x
Portugal	x	x	
Romania	x		
Slovak Republic	x		x
Slovenia	x		x
Spain		x	x
Sweden	x	x	
United Kingdom	x	x	x

Source: "Apprenticeship supply in the Member States of the European Union", European Union, 2012, p. 30.

However, the mere fact that these countries have “apprenticeship-like” schemes does say anything about the relative importance that this apprenticeship training has within VETs in general. This can be illustrated by the OECD table below, in which the proportion of apprenticeship tracks in upper secondary programmes is shown.

Table 2

Enrolment in upper secondary programmes (% of total enrolment in upper secondary education) in public and private institutions by programme orientation, 2008

Country	General	Vocational	TOTAL	Combined school and workplace-based vocational education
Austria	23	77	100	35
Czech Republic	26	74	100	33
Belgium	27	73	100	3
Slovak Republic	28	72	100	29
Finland	32	68	100	13
Netherlands	33	67	100	20
Luxembourg	38	62	100	14
Italy	41	59	100	0
Germany	43	57	100	43
Sweden	43	57	100	0
Norway	45	55	100	16
Denmark	52	48	100	47
Poland	54	46	100	6
France	56	44	100	12
Spain	56	44	100	2
Ireland	66	34	100	2
UK	69 (a)	31	100	9 (b)
Greece	69	31	100	0
Portugal	69	31	100	nk
Hungary	76	24	100	14

NB: nk = not known. (a) Includes some pre-vocational education. (b) No estimate shown in the OECD publication.

Source: OECD, 2010a, Indicator C1, Table C1.4.

The topic becomes more complicated when we discuss apprenticeships in the context of internships and traineeships. The terminological distinction between apprenticeship, traineeship and internship illustrates the scope of apprenticeships and allows a classification into “apprenticeship modes” and “apprenticeship systems”.

2 Definitions: internship, traineeship, apprenticeship

Internship, traineeship and apprenticeship are all work-based learning and training schemes, and sometimes it is difficult to clearly understand the difference between the three – first and foremost, because the terms are used in quite diverse ways internationally. In Australia, for example, the term ‘apprenticeship’ is used for trade and ‘traineeship’ for non-trade occupations, even though both use the same training model. Both models differ only with regards to the duration (3–4 years for apprenticeships, 1–2 years for traineeships) and the level of the certificate in the Australian Qualification Framework (III to IV for apprenticeships, I to II for traineeships – KNIGHT/KARMEL 2011). Seen from a European viewpoint and based on the general use of the terms, the below description of internship, traineeship and apprenticeship provides some clarification.

2.1 Internship

An internship is a limited, fixed period of time – from days to a few months –, part-time or full-time, spent within a company. Some students do an internship as a compulsory part of their education, while others choose to do one because it will improve their employment possibilities. The primary objective of the internship is for the student to get some on-the-job training and apply classroom education to the world of work. The internship can also help the individual student to obtain exposure to a particular career field in order to determine if they have a genuine interest in the field. Used this way, it is a good way to explore different career options. Internships can also be a good way to begin building an invaluable network for future employment opportunities. Internships are unpaid, but the company might voluntarily choose to offer some kind of payment or cost recovery, for example a transport allowance or a free lunch. The intern will not gain any formal qualifications. Internships are not part of a formal VET system – in this regard they are “less formal” than traineeship and apprenticeship schemes.

► Internship: Examples from the Netherlands and from France

An example from the Netherlands is the less workplace oriented programme (BOL beroepsopleidende leerweg), where students go to school all week, but have one or more periods of internship (10–20 weeks) during a school year.

In France, apprentices are encouraged to apply for one to four weeks of internship outside France. This is an interesting combination of a classic apprenticeship programme using the internship facility to acquire international practical work experience.

Source: Apprenticeship supply in the Member States of the European Union, European Union, 2012, p. 65 & 82.

2.2 Traineeship

Internationally, a traineeship is very similar to an apprenticeship, and in some countries, a traineeship is considered to be an apprenticeship-like programme. This makes it difficult to distinguish the two. The main difference is that traineeships tend to be shorter training programmes and not as formally structured as apprenticeships. They might include group learning at the employer’s and lead to lower-level certificates.

In an EU context, traineeships vary widely in terms of type, focus and duration (from short-term work placements to long-term schemes linked to education). They are often not a formal

part of an education and do not necessarily include alternation between periods at a company and periods in a VET institution. The definition of traineeship used by the European Commission is:

"A work practice including an educational component (either as part of a study curriculum or not) which is limited in time. They allow to document practical work experience as part of the individual CV and/or as requested in educational curricula or to gain work practice for the purpose of facilitating the transition from education and training to the labour market. They are predominantly short to middle-term (a few weeks up to 6 months, in certain cases one year – EUROPEAN COMMISSION, quoted by Helpdesk on Apprenticeship & Traineeship schemes, FAQ).

Eurostat defines a traineeship as:

"another form of vocational training offering practical experience at the workplace (inside or outside the employers' premises). The traineeship corresponds either to a component of a formal education programme or to a non-formal training activity organised by an education, training or employment institution... A traineeship offers paid or unpaid vocational training to students but also to unemployed or inactive persons for a limited period of time. The borderline between apprenticeship and traineeship within a formal educational programme can be difficult" (EUROSTAT 2010).

Traineeships are seen as relevant tools – among other things – for upgrading the qualifications of teachers. The Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training advocates for maximising work-based learning in general, and traineeships are viewed as a tool specifically relevant for VET teachers – *"Traineeships for teachers and trainers in enterprises should be encouraged"* (BRUGES COMMUNIQUÉ 2010, p. 8–9).

As the above description of internships and traineeships shows, it is quite difficult to draw clear dividing lines between the various workplace schemes. However, it is clear that the level of commitment increases as we move from internship towards apprenticeship.

2.3 Apprenticeship

There are various definitions for the term "apprenticeship". Some of them are quite narrow and focus solely on the alternation between school and company; others go beyond the learning at two learning venues and take the steering of VET into account.

- (1) For the purposes of the European Alliance for Apprenticeships (EAFA), apprenticeships are understood as *"a particularly successful form of work-based learning, which is based on the following principles: Apprenticeships are part of formal education and training programmes and lead to a nationally recognised qualification; Apprenticeships combine company-based training (periods of practical work experience at a workplace) with school-based education (periods of theoretical/practical education in a school or training centre); Most often there is a contractual relationship between the employer and the apprentice, with the apprentice being paid for his/her work"* (see: <http://ec.europa.eu/social/main.jsp?catId=1175&langId=en>).

Traineeship: Examples from the United Kingdom and from the Czech Republic

In the United Kingdom, traineeships are used as an entrance for young people to apprenticeships. Through the traineeship they will acquire the necessary level of maths and English and get meaningful work experience that provides an insight into and experience of the world of work.

At the level of tertiary professional schools, the Czech Republic offers professional education (ISCED 5B) to secondary school leavers. The programmes include practical training in the form of work placements for three-month periods. This could well be seen as a traineeship that is part of a formal and structured education process.

Source: Apprenticeship supply in the Member States of the European Union, European Union, 2012, p. 41.

- (2) The definition of CEDEFOP, the European Centre for the Development of Vocational Training, regards apprenticeships as
“systematic, long-term training alternating periods at the workplace and in an educational institution or training centre. The apprentice is contractually linked to the employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation” (CEDEFOP, 2014).
- (3) EUROSTAT defines apprenticeship (*“apprenticeships aim at completing a given education and training programme in the formal education system. Learning time alternates between periods of practical training at the workplace (inside or outside the employer premises) and general/theoretical education in an educational institution or training centre (on a weekly, monthly or yearly basis) by the following criteria:*
- ▶ *The apprenticeship is a component of a formal education programme.*
 - ▶ *Upon successful completion, as evidenced by a qualification or certificate, apprenticeships qualify for employment in a specific occupation or group of occupations.*
 - ▶ *The characteristics of the apprenticeship (e.g. occupation, duration, skills to be acquired) are defined in a training contract or formal agreement between the apprentice and the employer directly or via the educational institution.*
 - ▶ *The participant (apprentice) receives remuneration (wage or allowance).*
 - ▶ *The duration of the contract or formal agreement is at least six months and at most six years. In most cases, the apprenticeship contract or formal agreement involves an employer and a person not having any other formal arrangement with the latter before the apprenticeship starts”* (EUROSTAT 2010).

The table below provides a short summary of the main differences between internship, traineeship and apprenticeship.

Table 3

Characteristics of internship, traineeship and apprenticeship

	Internship	Traineeship	Apprenticeship
Legal foundation, Governance	Informal arrangement between VET institution and company	Can be part of a formal partnership that might be governed by law or agreement between the partners	A formal partnership governed by law or agreement between the partners
Legal agreement between the company and the student	No legally binding agreement	There might be a legally binding agreement Voluntary or unclear legal status	Legally binding contract/agreement Employee status
Educational objective	Introduction to the world of work No formal accreditation	Complementing educational programme or individual CV Formal accreditation/certificates might be provided	Full qualifying professional or vocational education and training profile (EQF level 3 to 5)
Duration	Short term; a few days to months	Short to medium term (Often less than 1 year)	Long term – normally from 2 to 3.5 years
Dual learning at a VET institution and a company	Only one-off and stand-alone short period in a company	Short period in a company that might be structured	Alternating between a VET institution and a company in a structured way (schedule and content)
Payment to the student	No payment	Might include payment Unregulated financial compensation	The apprentice receives a wage that is regulated

(Continuing Table 3)

	Internship	Traineeship	Apprenticeship
Certification	No certificate is provided	No formal certificate is provided	Formal and recognised certificate is provided
Social partner involvement	Companies make themselves individually available	Degree of involvement and commitment depends on how formally structured the system is	Fully involved and committed at all levels

Poulsen inspired by "Helpdesk on Apprenticeship & Traineeship Schemes. Frequently asked questions" (available: <http://ec.europa.eu/social/main.jsp?catId=1045&intPagelId=1867&langId=en>).

“Contemporary” European apprenticeship modes are certainly very different from each other, especially where the details are concerned. However, if we take dual VET systems as a reference point, apprenticeship modes have to meet at least the following requirements:

- ▶ **Recognised standards:** They are based on national standards that are the results of a joint development process between the social partners and the state/region.
- ▶ **Interlocking theory and practice:** Learning takes place at two “venues” (companies and part-time vocational schools). The company-based part of the VET makes up the major part of the apprenticeship period.
- ▶ **Independent assessment:** The final examination is focused on the assessment of competences required for the respective occupation and taken in front of professional experts (BMWFI 2012, p. 5).
- ▶ **Entitlement:** The apprentices successfully completing the training are immediately entitled to do skilled work and to be paid adequately.

Apprenticeship schemes that are embedded in dual systems as we know them from countries like Germany, Austria, Denmark or Switzerland are characterised by the fact that graduates acquire a full vocational qualification (“occupation”) that is recognized on the labour market. In the countries mentioned above, the access to apprenticeship training is not linked to any formal admission prerequisite. Training in an apprenticeship scheme is open for everybody with completed compulsory schooling. No special school qualification beyond secondary school is required.

3 Features of a “contemporary” apprenticeship system

Apprenticeship systems are – naturally – woven into the national educational culture and traditions, which becomes a precondition for their role. The major difference between the different versions of the apprenticeship systems appears to be the degree of decentralisation with regard to all aspects of the system. This is probably one of the reasons why different EU institutions are applying different definitions of apprenticeship. With these limitations in mind, we will paint with a broad brush when presenting the characteristics of (European) apprenticeship systems. Today, apprenticeship systems have the following main characteristics:

1. They are defined by a legal framework and/or governed by agreements between the social partners;
2. The system is based on shared responsibilities and joint ownership. Social partners are directly involved in the development of qualification standards and the governance of the apprenticeship system; intermediary bodies monitor the execution of the training and assess and award the qualification;
3. The system is financed by public (state) and private (employers) budgets;
4. Training alternates between learning at an employer’s and at a VET institution;
5. The relationship between apprentices and employers is laid down in a training contract;
6. The apprentices are awarded a formal certificate based on commonly agreed qualification standards.

3.1 Legal framework

A key element of an apprenticeship system is the existence of a specific legal framework. The legal framework defines the roles and functions of the stakeholders and all relevant procedures associated with the governance and management of the system. In Germany, for example, the Vocational Training Act (*Berufsbildungsgesetz – BBiG*) regulates all aspects of apprenticeships as the legal backbone of the dual system. The legal framework might be supplemented by binding agreements reached between employers and trade unions. In Denmark, for example, the salaries and working conditions are negotiated between representatives of employers and trade unions and not regulated by law. In the same way, a developed practice of employers, trade unions and VET institutions may be as binding as the legal framework. The important point to observe here is that those directly involved are committed to the system and understand that the system can meet its objectives only through a high level of mutual trust. Consequently, there is not necessarily a need to regulate something that all parties involved may well understand and be committed to. Only the existing culture and tradition can determine that.

It is important to stress that the legal framework governing apprenticeships must be based on a sound VET policy, which is widely supported by the key stakeholders. This means that the legal framework is “simply” the legal expression of a policy on apprenticeships and that the policy should be supported by the key stakeholders. Failing this, an apprenticeship system is not likely to strike roots.

Many of the new EU member states have been through an accession process through which consensus on a VET policy was built. In Estonia, for example, the VET apprenticeship policy process was introduced through EU-supported apprenticeship studies (EU PHARE project), a targeted accession process and assistance offered by the European Training Foundation (ETF, an EU

VET Agency). After Estonia's EU membership (1 May 2004), these initiatives were followed by a European Social Fund (ESF) financed programme, which lasted from 2005 to June 2008. The same is true for Hungary. Soon after Hungary joined the EU in 2004, apprenticeships became part of the policy agenda. In the following years, incentives were introduced to facilitate a practice whereby students could spend the final year of training with a company. This initiated the development of the "Hungarian dual model". In the beginning of 2007, the Hungarian VET policy discussion brought apprenticeships to the top of the policy agenda by, among other things, introducing novel approaches to apprenticeship promotion (BÜKKI/DOMJÁN/FEKETE/ MÁR-TONFI, 2014).

The policy and legal framework in a country should also provide for sound governance and management of the apprenticeship system to regulate the cooperation and coordination between the stakeholders. The stakeholders in an apprenticeship system are the representatives of the education sector, including the ministries of education, their respective departments and training structures, and the social partners, i. e. the representatives of the business and industry sector, e. g. employers' associations. In some countries, the ministries of labour, employment offices and trade unions are also relevant stakeholders. The cooperative nature of an apprenticeship programme (between public and private actors) demands that social partnership principles are applied in the governance and management at all levels of apprenticeships. We will discuss the social partnership feature and the role of intermediate organisations such as competent bodies (chambers of industry and commerce, chambers of trade crafts, etc.) further below.

Table 4

Examples for the structuring of legal frameworks

The Vocational Training Act (BBiG) in Germany Structure of Part 2: "Vocational training", Chapter 1: initial training	The Federal Act on Vocational and Professional Education and Training (VPETA) in Switzerland Chapter 2: "Vocational training" (VET) Section 1: General provisions
<p>Division 1 Organisation of initial training, recognition of training occupations</p> <p>Division 2 Initial Training Relationship Establishment of the Initial Training Relationship (contract) Obligation of Apprentice Obligations of Training Employers Allowance Beginning and End of the Initial Training Relationship Miscellaneous provisions</p> <p>Division 3 Suitability of Training Premises and Training Staff</p> <p>Division 4 Register of Initial Training Relationships</p> <p>Division 5 Examinations</p> <p>Division 6 Representation of Interests</p> <p>download available: https://www.bmbf.de/en/the-german-vocational-training-system-2129.htm</p>	<p>Section 1: General provisions Art. 12 Preparations for VET Art. 13 Imbalances in the apprenticeship market Art. 14 Apprenticeship contract</p> <p>Section 2: Structure Art. 15 Subject matter Art. 16 VET segments, learning locations, responsibilities Art. 17 Types and duration of VET programmes Art. 18 Taking individual needs into account Art. 19 VET ordinances</p> <p>Section 3: Providers Art. 20 Host companies Art. 21 VET schools Art. 22 Courses offered by VET schools Art. 23 Industry courses and similar third-party training courses</p> <p>Source: http://www.admin.ch/ch/e/rs/412_10/index.html</p>

3.2 Shared responsibilities by social partner involvement

As mentioned, apprenticeship systems are governed by a binding framework (law, regulations and/or voluntary agreements between the social partners). The framework determines the social partners' involvement in the governance and management as well as in curriculum development, standard setting, examinations, etc.

In most countries the ministries of education (or equivalent empowered bodies and their respective departments) are managing the apprenticeship system. As a ministry, it holds the responsibility – at least – for ensuring that the legal framework is appropriate. The development of the legal framework in terms of governance and management is done under the leadership of, or in a consultation with, the social partners. The social partners exercise their involvement through different forms of governing bodies such as councils, boards or committees. Such governing bodies offer equal representation to employers and employees, national governments and other relevant stakeholders. National level structures might be copied at regional and VET institution levels. As mentioned, such governing bodies will be charged with the responsibility of governing and steering the apprenticeship system either in a binding or an advisory capacity – or a combination of the two. The formal balance of power between a ministry and the social partners might vary and might be shaped by the national traditions and governance culture. The influence and involvement of the social partners is closely linked to the strength of national social dialogue within education and related policy areas as well as the sector level structure of the labour market.

It is striking that in the Scandinavian countries and in the Netherlands, VET is organised in a highly decentralised way with flat and efficient governance and management structures providing the operational level, i. e. VET institutions and companies, with a great deal of autonomy and flexibility. In Denmark, the National Council for Vocational Education, which is supervised by the Ministry of Education, is the supreme governing body of the apprenticeship system. The key players in the management of the system are the Trade Committees with their Sector Committees that comprise the social partners (employers and trade unions).

In Germany, the core institution for consensus building between all parties involved in VET at the national level is the Federal Institute for Vocational Education and Training (*BIBB*). *BIBB* conducts research into in-company vocational training and fulfils service and consultancy functions to the Federal Government and vocational training providers. The four-party Main Board (*Hauptausschuss*) advises the Federal Government on fundamental issues of in-company vocational training.

In Switzerland, the system is steered by the Confederation, professional organisations and the cantons. The cooperation is characterised by its shared responsibilities: The Confederation [represented by the State Secretariat for Education, Research and Innovation (SERI) and the Swiss Federal Institute for Vocational Education and Training (SFIVET)] is responsible for the strategic management and development of the system (e.g. enforcement of around 250 VET regulations, recognition of around 400 examination regulations, recognition of training programmes for VET, etc.). The professional organisations such as trade and/or industry associations, social partners, training providers and companies are involved in the development of curricula and apprenticeships (e.g. establishing the training content and national qualification procedures for VET programmes, developing new training courses, creating apprenticeship positions, managing VET funds, etc.). The cantons with their 26 cantonal VET/PET offices, their career guidance services, VET schools and the Swiss Conference of Cantonal Ministers of Education (EDK) are responsible (among other things) for the implementation of the Federal VET and PET Act, the supervision of apprenticeships, VET schools and colleges, the marketing for apprenticeships and for the provision of training to VET trainers in host companies (SERI 2013, p. 6–7).

In Slovenia, the Ministry of Education is the supreme governing body that is linked with the Council of Experts comprising professional representatives of the social partners. The VET law provides for the participation of social partners in sectoral and regional VET Councils. Through these councils, government representatives along with employers and trade unions jointly develop sectoral and regional VET strategies (CEK/VRANJES/IVANCIC/MAHER, 2003).

In addition to the management of the system, social partnership plays a vital role in the designing of vocational standards. In Germany, employers and trade unions jointly formulate the employment requirements for the qualification standard. In the practice of vocational training, all cooperation is based on consensus; no regulations and no training programmes concerning initial or further vocational training may be issued against the declared will of either of the two social partners. Thus, initiatives for vocational educational reforms either stem from the social partners or have to meet with their acceptance. As a rule, in countries with a dual VET system, the initiative for updating the content or structure of a training occupation or for developing an entirely new occupation comes from industry associations, from the top-level employers' organisations, from trade unions or an intermediate institution. This broad commitment assures that training programmes meet the needs of the labour market or, in other words, that the qualification is the binding key between work and labour market. In dual systems we use the term “occupation” when we talk about qualifications. REULING (2002, p. 23) explains the characteristic features of an “occupation” (“Beruf”) as follows:

“An ‘occupation’ (‘Beruf’) entails a typical set of activities. To pursue a ‘vocation’ (‘Beruf’), the individual likewise needs a combination of formal knowledge, skills and experience, but unlike in the case of jobs, these skills are more systematized and their deployment is not geared to any single work site.”

This explains quite clearly why social partnership plays such an important role in VET when it comes to standard setting. The qualification standard is the basis for a vocation, and the vocation – again quoting REULING (2002, p. 23) – “is thus a currency for trading labour for money. Understood from this viewpoint, ‘Berufe’ – the plural form of ‘Beruf’ – present a matrix for structuring and regulating the labour market”.

In a 2008 publication on “Initial education and training in Europe”, CEDEFOP noted a trend among EU member states towards increasing the autonomy of VET institutions with regard to the development of curricula and the assessment of training delivery needs (CEDEFOP 2008, p. 23). Slovakia was used as an example where the Education Act of 2008 decentralised curriculum development to the VET institution level in cooperation with local stakeholders. In Estonia, Poland, Spain and The Netherlands, individual VET institutions can adapt parts of the existing curricula to local labour market needs. In Denmark, the individual VET institutions are organised as self-governing institutions managed by a board charged with the overall responsibility for the VET institutions, and local social partners are represented on the board.

Some systems – like in Denmark – have increased the individualisation of learning. This is associated with the increased degree of autonomy, which allows the VET programmes to meet the expectations of the learners better. Consequently, increased autonomy is not only a governance

Example Germany: Objectives of Vocational Training

Vocational Training Act (BBiG),
Part 1, Section 1:

(3) Initial training shall, through a systematic training programme, impart vocational skills, knowledge and qualifications (vocational competence) necessary to engage in a form of **skilled occupational activity in a changing working world**. Initial training shall also enable apprentices to acquire the necessary occupational experience.

https://www.bmbf.de/pub/BBiG_englisch_050805.pdf

and managerial issue, but also relevant to constantly making the delivery of the VET institution-based part of the apprenticeship training as relevant as possible.

The importance of strengthening the social partnership dimension of apprenticeships is acknowledged in Europe and is seen as facilitating an employment and skills agenda. The Commission's plan to launch a "European Alliance for Apprenticeships" (see IP/12/1233) was announced as part of its Rethinking Education initiative and Youth Employment Package (http://europa.eu/rapid/press-release_IP-12-1233_en.htm). The European Council of 7–8 February 2013 invited the Commission to establish the Alliance as part of its measures to tackle youth unemployment. The 27–28 June 2013 European Council Conclusions referred to the promotion of high quality apprenticeships and work-based learning, notably through the European Alliance for Apprenticeships, as a key element of supporting youth employment. The European Alliance for Apprenticeship was launched in July 2013 and was supported by the first-ever joint Declaration by the European Commission, the Presidency of the EU's Council of Ministers and European level trade union and employer organisations. The Alliance promotes measures that are supported by the European Social Fund, the Youth Employment Initiative and Erasmus+, the EU programme for education, training and youth.

One of the key points for the European Alliance for Apprenticeships in pursuing an employment agenda is: *"Strong partnerships at all governance levels between public authorities, social partners, businesses, VET providers, youth representatives, employment services and where appropriate chambers for effective design and functioning of apprenticeship schemes"* (EUROPEAN COMMISSION, IP/13/634, p. 2).

In 2015, a further call (2015/C 340/05) was launched under Erasmus+, which was especially dedicated to the support of small and medium sized enterprises (SMEs) engaging in apprenticeships. Increasing the supply of apprenticeships is one of the five European priorities on VET for 2015–2020 and one of the main objectives under the European Alliance for Apprenticeships. One aspect of the call was exclusively geared to building up capacities for intermediary bodies (such as chambers of commerce, industry and crafts, other professional organisations) to develop and set up support structures for SMEs, particularly for those with no previous experience of apprenticeships. This leads us to the role of intermediary bodies in general.

3.3 Quality assurance by intermediary bodies

Intermediary bodies have the power to advise the system, but they do not govern it (as the social partners do, for example). In EU terms, they are also called "awarding authorities". Their main task is to issue *"qualifications (certificates, diplomas or titles), formally recognising the learning outcomes (knowledge, skills and competences) of an individual, following an assessment procedure"* (CEDEFOP 2004). In Germany and Austria, "competent bodies" such as the chambers of commerce and industry and the chambers of crafts carry out this function. They operate under a law (the Act on VET), and they are responsible for the organisation, registration, examination and certification of vocational education and training. They advise companies and apprentices, monitor the provision of training, issue examination standards and review training facilities, instructors and agreements.

Since they do not train themselves, they are responsible for the final examination that all the apprentices have to pass at the end of the training (this basic principle is called "those who train do not assess"). In decentralised VET systems, training activities are often coordinated directly on a regional/local level. The VET schools themselves act as awarding authorities/competent bodies; there are no other intermediary levels between the ministry and the VET schools. The cases of Denmark and the Netherlands can illustrate this: In Denmark VET schools are organised as private, non-profit and independent institutions. Boards representing the county/municipal

council and the labour market organisations (trade unions and employers) govern them. Public funds are available for those VET schools offering programmes that comply with government regulations (GRASSKOV 2000, p. 88). In the Netherlands, the role of VET schools is comparable to the Danish example. In order to assure the outcomes and the quality of training, the Regional Training Centres (ROC) have to set up a quality assurance system, in which external parties are invited to take part in the quality assessment. The quality assurance system focuses "on the accessibility of education, the efficiency of learning pathways and educational and vocational guidance" (VISSCHER 2009, p. 34) and has to include a definition of the qualifications to be achieved. Nonetheless, whether intermediary institutions act like the competent bodies in the German-speaking countries or like the VET schools in decentralised VET systems, they play an "intermediary role" because they don't govern and steer the system and they don't develop the national standards. Instead, they play a pivotal role in assuring the quality of the VET-system by assessing the outcomes of an individual and by awarding the qualification.

3.4 Financing by the public and employers

The basic financial structure of the apprenticeship system is that public sources and the private sector share the funding obligations. This means that funds are sourced from both public (national and regional) budgets and employers. When applying the above characteristic, we will only consider the financing structure of apprenticeship systems where the workplace training forms a significant part of the apprenticeship programme – dual apprenticeship systems.²

In most countries, the costs of company-based training are borne by the respective training company, whereas the public funds school based training at part-time vocational schools. This means that the employers finance the biggest part of the in-company training. This includes the direct cost of training (equipment for the apprentice, training facilities and material), but also indirect costs such as lower productivity of the master craftsman training the apprentice. In countries with advanced dual systems, the apprenticeship remuneration constitutes a major part of the costs of training. The amount of remuneration is determined for each apprenticeship occupation in collective bargaining agreements.

For employers in countries that try to implement apprenticeship schemes, offering a wage (or remuneration) will naturally be a cost – especially during the first years of the apprenticeship period. However, apprentices contribute to the training companies' productivity through their productive work. Their share in productive work increases with every apprenticeship year.

To promote apprenticeship programmes, various financial methods are applied, such as tax incentives, employer reimbursement schemes and direct grants. Such financial incentives are highly country-specific and blur employers' total financial contribution to the apprenticeship system. However, it is clear that the employers' financial contribution is significant and the system would not work without their financial contribution.

In Denmark, the Employers' Reimbursement System (ERS), which was established in 1977, covers part of the cost of engaging an apprentice. The apprentice receives a wage whose level is set through collective bargaining between employers and trade unions. The wage increases during the period of training and typically ends at 40 percent of a skilled worker's wage. In Austria, the wage increases with every apprenticeship year until, in the final year, it totals an approximate average of 80 percent of the corresponding skilled worker's wage (BMWFI 2012, p. 18).

The intention of Danish ERS is to ensure the availability of apprenticeship places by reimbursing parts of the employers' costs for the payment of wages while the apprentice is attending

² VET institution based systems – also those considered as being school based apprenticeship systems – are mainly financed through public funds.

training at a VET institution – that is, the wage during periods when the apprentice is not available to the employer at the workplace. Over the years, the ERS has extended its coverage to include support to mobility initiatives and internship grant activities. This means that 80 percent of the apprentices' travel expenses can be covered through the ERS. Initially, the ERS was financed through a levy collected from employers and a contribution from the government. However, from 1998 on, the ERS has been financed almost exclusively by employers. In 2014, approximately 100,000 employers contributed financially to the ERS, making it possible for both public and private employers to have some of the costs of taking on an apprentice covered. All employers' contributions (private as well as public) are calculated on the basis of a flat rate per full-time employee beyond the first employee. For 2012, the rate was approximately 286 € (DKK 2,921) a year, payable each quarter. There is a deduction for every 50 employees and apprentices who are registered with a training agreement. Apprentices are not included in the calculation of full-time employees. Newly registered companies will automatically be included in the ERS, thus giving them the obligation to pay the levy, but also the right to reimbursements (see more: <https://www.atp.dk/>). The company covers the remaining part of the employers' costs of training, such as training supervision (side-by-side training) and other training related costs.

In Austria, the training company can apply for basic subsidisation at the end of every apprenticeship year. For the first apprenticeship year, three gross apprenticeship remunerations pursuant to the respective collective agreement can be subsidised; for the second apprenticeship year, two gross apprenticeship remunerations can be subsidised; and for the third and fourth apprenticeship year, one gross apprenticeship remuneration can be subsidised. Furthermore, subsidies are available for continuing training measures for VET teachers, for measures for apprentices with learning difficulties or for periods of work placement abroad (BMWFI 2012, p. 19).

In Switzerland, the cantons are responsible for implementing VET/PET.³ The Confederation's share of public funding of the VET/PET system corresponds to one-fourth of the total costs (around CHF 3.5 billion in 2011). Additionally, companies in a given branch contribute to a corresponding fund, which is used to cover the costs of training. If the Confederation declares some VET/PET funds to be of general interest within a branch, it is mandatory for all companies to pay in (SERI, 2013, p. 18).

Australia is the only country to pay incentives on a large scale to employers of apprentices and trainees. The economic rationale for the incentives is that they will offset wages and other costs and encourage employers to make more training places available. They are also structured to encourage successful completion of apprenticeships and traineeships at certificate III level and above. Australia's government also pays a range of incentives to those employers who provide an apprenticeship or traineeship to a person who has a disability, is an indigenous Australian or is disadvantaged in some other way. Apprentices and trainees on very low wages may also be eligible for supplementary income support (NCVER, 2010a).

Other government financing or concessions are also provided. Australia's national government covers practically all the cost of the formal, off-the-job training delivered to apprentices and trainees, even when a non-TAFE⁴ training provider delivers this training (including enterprises that have registered as training providers). Many employers are eligible for payroll tax exemptions. Some incentives, such as those paid to employers for training women in traditional trades, had limited success and have been discontinued. Personal benefit support is also provided to help offset the effects of low wages during training, including public transport and car registration concessions, the Living Away from Home Allowance, the Tools for Your Trade Al-

³ In Switzerland PET (professional education and training) corresponds to what is understood as "further training" in other countries. It takes place on the tertiary B level and is based on the completion of VET (SERI, 2013).

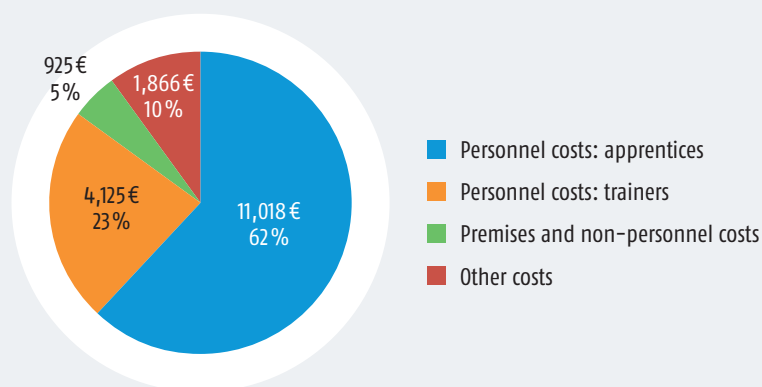
⁴ TAFE = Technical and Further Education

lowance, travel and accommodation allowances when the training provider is located some distance from the apprentice's home, and a capping of apprentice/trainee student tuition fees. The government contribution to Australia's apprenticeship and traineeship system is substantial: the total in 2008/09, taking account of all expenditures, is estimated at AUS\$ 28,324 for a four-year apprenticeship in a trade and AUS\$ 7,081 for a typical one-year traineeship (NCVER, 2010a). The incentive payments to employers have occasionally been restructured, and the amounts paid are not indexed for inflation, but these factors reduce the total cost to the government only marginally. Employer representatives have strongly resisted recent suggestions by the Australian Apprentices Taskforce (AUSTRALIAN GOVERNMENT, 2011a) that employers should meet more of these costs or contribute via a levy, and the government has accepted this view (EVANS, 2011).

Does Australia get good value for money from large-scale public funding of its apprenticeship and traineeship system? The statistics are certainly impressive, approaching 300,000 commencements a year in a workforce of about 12 million, a training commencement rate of around 2.5 per cent; in many occupations, the training rates are even higher (NCVER, 2011a). The major component of the government spending is off-the-job training, which is made available for practically all apprenticeships and traineeships with little regard to the likely returns (KNIGHT/KARNEL, 2011, p. 112).

Figure 1

Breakdown of gross costs per apprentice and year by cost categories (in % and €)



It is difficult to quantify how much an apprenticeship system costs an employer, since a large part of the learning lies in the individual companies. For instance, how much does it cost when a skilled worker provides side-by-side training while producing a physical product or service? However, estimates from Germany of the cost to an employer of engaging an apprentice show that the gross costs – composed of the personnel costs of apprentices and trainers, investment, operating and other costs – totalled 17,933 € on average per year of training in 2012/2013. After taking into account the apprentice's positive contribution to the company, the net average cost to the employer is 5,398 € per apprentice/year. In addition, in-company-training leads to savings on recruitment costs (advertising costs, staff to carry out interviews and select applicants). Above all, companies that provide training save on induction costs for staff recruited via the job market. The average value of these savings across the companies in Germany was 8,715 € per new skilled worker in 2012/2013 (<http://www.bibb.de/de/11060.php>). Additionally, savings of 722 € are made on further training for new staff (BEICHT/HERGET/WALDEN, 2007, p. 54).

The public funds (national and regional budgets) finance off-the-job training at VET institutions and cover all the costs of running accredited VET programmes. This is the case in Denmark and Germany, but also in Slovenia and in Egypt (MKI).

The total costs of an apprenticeship system depend naturally on the complexity of the system. In France, for example, up to 43 percent of funds available for apprenticeships come from the enterprises themselves (including wages paid to apprentices), 50 percent come from central and regional government budgets and the remaining 7 percent from income generation activities of VET institutions and contributions from apprentices and their families. In Germany, up to 76 percent of resources devoted to apprentices came from employers in 2007. The remaining 24 percent came from the Länder and the Federal Employment Agency (EUROPEAN COMMISSION/IKEI, 2012, p. 74).

Loans and grants from donor organisations may help develop and get apprenticeship systems off the ground, but in the long term, national financing solutions have to be found to reach financial sustainability. Further funding instruments include tax exemptions, national training funds, revolving funds and other resources. EU projects and the European Social Fund have facilitated part of the development and introduction of apprenticeships in the Eastern European countries that joined the EU.

A high level of commitment from employers to provide a substantial share of the funding appears to be of key importance for a well-functioning apprenticeship system. General awareness of apprenticeships, their benefits to companies and incentives that are easy to understand and apply may prepare the ground for such a commitment.

3.5 Alternation between in-company training and in-school learning

An apprenticeship scheme is built around the principle of “dualities”, whereby theory and practice, knowledge and skills, learning and working are combined in a particular manner and where training alternates between the company and the VET institution. Vocational schools and companies have a joint educational responsibility for vocational training. The duration of training in the company and the VET institution varies from system to system, between occupations, and over the entire apprenticeship programme.

In EU countries with strong apprenticeship programmes, company-based training represents the largest share of total training hours, usually between 66 and 70 percent of the total training time. In Austria, an apprenticeship programme takes between two and four years. The apprentice is normally at a VET institution one or two days a week (at minimum one day), and the rest of the time is spent at the employer's (80 % of the total duration of the VET programme). The same structure, with weekly days at both the VET institution and the employer's, is applied in Germany. Apprentices spend one or two days in vocational school and three or four days a week in the company. Vocational schools also teach special classes oriented to the various relevant occupations – sometimes on a supra-regional basis for less-popular or “orchid”-occupations in which only a few apprentices are trained per year. This is called the “day release” method.

However, in some trades and enterprises, the “block release” structure is applied in Germany and Austria. In the Danish system, for example, apprenticeship programmes have a total duration of three to four years, and relatively long periods of consecutive weeks are spent at a VET institution or at the employer's (50–70 % of the total duration of the programme). The VET institution-based periods are organised as blocks of five to ten weeks, two to five times during the main course, with one to three blocks per academic year. The remaining periods are spent at the employer's. In Ireland, all VET programmes that had been introduced by the emerging apprenticeship system in 1993 lasted four years and comprised seven phases. Three of the phases were provided at a VET institution (a training centre for phase 2 followed by an Institute of Technology for the following phases 4 and 6) over a total period of forty weeks. The remaining four phases were provided at an employer's (HARPER/Fox, 2003, pp. 24–26).

The block-release structure has the advantage that complex training tasks (e.g. small projects) covering a longer period of time can be performed both at the VET institution and at the employer's. The disadvantage is that the apprentices are taken out of the companies and the production process for too long. From a cost point of view, a block release structure could offer some advantages because it is possible to switch groups of apprentices at the VET institution and at the company, which helps utilise the capacity of the VET institutions better. Naturally, the full benefit will depend on the duration of the periods and the capacity of the VET institution.

The above clearly illustrates that the way the alternation between training at a VET institution and the employer works varies significantly from system to system. Many EU apprenticeship systems acknowledge the importance of workplace training, which is clearly shown in the fact that 50 percent or more of the apprenticeship programme is actually spent at an employer's. This shows the strong emphasis on practical skills as well as the commitment of employers to training of the future workforce. It is only proper to say that at least 50 percent of a training programme should take place at the employer's in order for the programme to be defined as an apprenticeship programme.

Since training takes place at a company, apprenticeships are highly valued on the labour market. Examples from Austria, Germany and Hungary can illustrate this. In 2010, the unemployment rate of apprenticeship graduates in Austria was 3.6 percent, which is clearly below the average of all people active in the work force at 4.4 percent (BMWFI, 2012, p. 37). Studies from BIBB in Germany show that 47 percent of those who had undergone in-company training were in permanent employment three months after the completion of training and were working more than 20 hours per week. Together with those who were employed in other ways, this made for a total of 72 percent in employment. The number rises when we look at the situation twelve months after the training had ended: 50 percent of graduates of the dual system had found permanent employment, whereas the proportion of those who had completed full-time vocational schools was lower than 20 percent (BEICHT/ULRICH, 2009, p. 29).

The risk of unemployment also decreases for apprenticeship graduates in countries that do not have a longstanding dual training tradition, such as Hungary, where – as in many countries – the vocational training tracks are not very attractive. More than that: They “*are considered to be the lowest ranked in the hierarchy of tracks*” (HORN, 2013, p. 5). By using a new panel database, HORN (2013, p. 6) shows that “*the baseline uncontrolled average probability of being employed for a vocational training student in 2011 is 44 percent. Apprentices, however, have a 47 percent chance, while school-trained students have a 39.5 percent chance of being employed.*” The author quotes three main reasons for the decreased unemployment risk of apprentices: Human capital, screening and signalling (HORN, 2013, p. 2). The proven effects of apprenticeship training in Hungary may serve as convincing arguments for other countries trying to implement apprenticeship modes – especially since Hungary belongs to those countries in which VET in general is mostly school based and far from the labour market.

Reasons why apprentices get quicker access to the labour market than graduates of full-time vocational schools:

Human capital: Apprentices are able to adapt quickly to a new workplace due to their proven capacity to act vocationally.

Screening: Apprentices are already screened by an employer, which means that the risk of hiring the “wrong person” for the job is smaller than for graduates from full-time vocational schools.

Signalling: Even if the company does not train itself, there is trust towards the knowledge, skills and competences that are achieved within an apprenticeship. In this sense, apprentices carry a signal that informs the future employer about capabilities.

(HORN 2013, p. 2, <http://cadmus.eui.eu/handle/1814/27320>)

3.6 Apprenticeship contract

As noted for the medieval apprenticeship systems, a crucial and central element of an apprenticeship system is the work and training contract or agreement between the apprentice and the company. An apprenticeship contract/agreement is an agreement between an employer and an apprentice under which the apprentice undertakes to work for the employer and at the same time is trained both at the employer's and at a VET institution. To successfully graduate, the agreement must be in place for the whole duration of the apprenticeship programme. The key issues covered by this contract include the duties and rights of both parties related to the in-company training, learning objectives, training schedule (working and training hours), holidays, the payment of an apprenticeship allowance (salary) and terms of termination.

A side note to the historical development of training allowance payments in Germany

From the end of the 19th century, the requirement for well-trained skilled workers grew considerably and industrial apprenticeship training was accorded increasing significance. By now, the trade unions were well established. Since they regarded any training contract as a contract of employment and training allowances as wages, they began to call for collective wage agreements to cover this area. For their part, the chambers of crafts and trades and guilds responsible for training in the craft trades also claimed the right to stipulate apprentice allowances in their sector. They viewed such an allowance as a form of financial assistance to support apprentices in meeting their living costs rather than as a wage. For this reason, collective wage agreements initially tended to be largely confined to the field of trade and industry. Whereas apprenticeship allowances in the field of trade and industry were increasingly subject to collective wage agreements as early as the 1950's, the chambers mostly continued to set remuneration levels or issue recommendations in the craft trades sector until the end of the 1960's. Collective wage agreements to cover training allowances did not become usual practice in craft trades until during the 1970's. The first comprehensive regulation of in-company vocational education and training in the Federal Republic of Germany came in 1969 in the form of the Vocational Training Act (BBiG). The right to receive a training allowance was established in law in the following terms: "Training employers shall pay trainees an appropriate allowance. It shall be so assessed in accordance with the trainees' age that it increases at least once a year as the initial training progresses." The reason stated within the legislative procedure for the obligation to pay a training allowance is that such an allowance should secure financial support for the trainee (or his or her parents) during vocational education and training as well as constituting justifiable remuneration for work performance (GERMAN BUNDESTAG, 1969). The reasons given why training allowances should increase on at least a yearly basis are that the economic requirements of trainees rise as they become older and that the work performance provided by trainees becomes more valuable for the company as training progresses. Training allowances were thus accorded the dual function of providing assistance with meeting living costs and giving remuneration for work done. Training allowances should be appropriate with regard to these criteria. As far as the precise amount of training allowances was concerned, the legislators decided that the two sides of industry or the contracted training partners should act autonomously in setting levels paid, although due consideration was to be accorded to the principle of appropriateness at all times.

BEICHT, Ursula/KREWERTH, Andreas (2010): *Money plays a role! Are trainees satisfied with their pay?* in: BIBB report Issue 14/10, ISSN: 1869-2761, <https://www.bibb.de/veroeffentlichungen/de/publication/show/id/6761>

The contractual relationship between the apprentice and the employer as a characteristic of or even a precondition for an apprenticeship system is one of the issues that are debated, and especially the payment of the apprentice. Arguably, the commitment of the employer and the apprentice to the apprenticeship is closely linked to the payment of a salary to the apprentice. A high level of commitment on both sides is an essential element of a well-functioning apprenticeship system.

Most EU apprenticeship systems include a contract signed by the apprentice (or their legal guardian) and the employer. However, it is less common that the contract provides for a salary

to the apprentice paid by the employer. In those EU member countries where the apprenticeship contract has the character of employment, employers pay a wage to the apprentice at least during the periods spent with the employer.

In Germany and Austria, the companies sign contracts with the applicants under private law, assume the costs of the on-the-job-training and pay the trainee allowance in accordance with the collective bargaining agreement in the sector concerned. They train them in line with the binding provisions of the vocational training regulations, which guarantee a national standard that is monitored by the competent bodies (in Germany) and the apprenticeship office (in Austria).

In Austria, the apprenticeship contract must include the following information:

- ▶ The name of the apprenticeship in which training is conducted
- ▶ The apprenticeship period
- ▶ The beginning and end of training
- ▶ Details regarding the people authorised to train apprentices and, if applicable, the IVET trainer
- ▶ Details related to the apprentice
- ▶ A note concerning compulsory attendance of part-time vocational school
- ▶ Any periods of training held within the framework of a training alliance with other companies or educational institutions
- ▶ The amount of the apprenticeship remuneration
- ▶ The day on which the apprenticeship contract is concluded (BMWFI, 2012, p. 17).

In Germany, the apprenticeship contract determines the employer's and apprentice's obligations. The employer's obligations cover:

- ▶ Objective of the training
- ▶ Apprentice
- ▶ Initial training regulations
- ▶ Training aids
- ▶ Attendance of part-time vocational school and participation in training measures outside the training premises
- ▶ Keeping written records on initial training
- ▶ Training related activities
- ▶ Obligation to care
- ▶ Medical examinations
- ▶ Application for registration
- ▶ Registration for examination
- ▶ Training measures conducted outside the training premises.

The apprentice's obligations consist of:

- ▶ The obligation to learn
- ▶ Instruction at part-time vocational school, examinations and other activities
- ▶ Duty to comply with instructions
- ▶ Company rules
- ▶ Duty of care
- ▶ Keeping trade secrets
- ▶ Keeping written records
- ▶ Notification
- ▶ Medical examinations

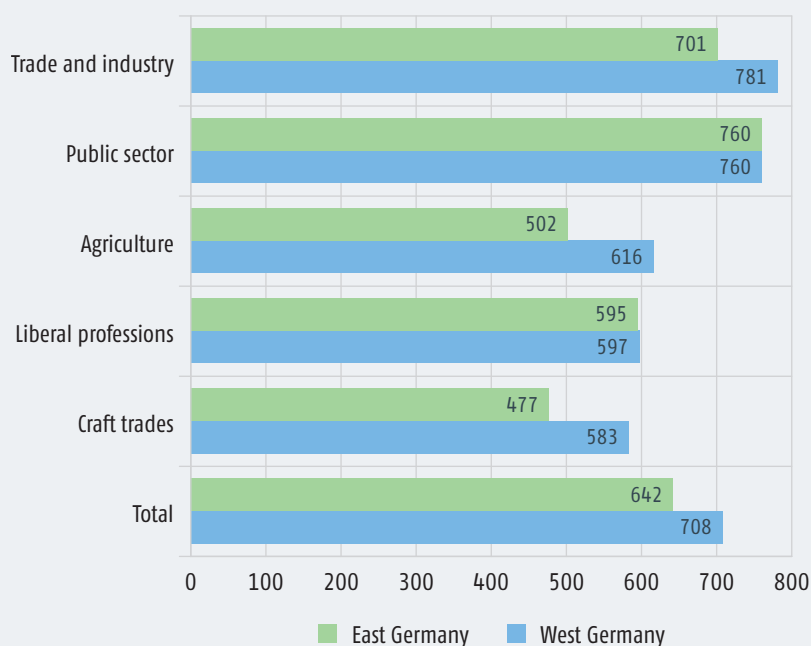
(https://www.bibb.de/dokumente/pdf/a12pr_ausbildungsvertragsmuster_englisch.pdf).

In the UK, apprentices have a contract with the employer that gives them the status of employees, and they receive a pay. An individual learning plan, which employers develop with the help of local training providers, structures the apprenticeship. The apprentices typically spend one day per week at a VET institution. The so-called Mathiteia programme in Greece contractually links the apprentice to an employer, and the apprentice receives a wage (IKEI, 2012, p. 38).

In Ireland, apprentices are hired by an approved employer and receive wages while training at the employer's and an allowance while attending the VET institution. Employers in Estonia pay apprentices a wage at least equivalent to the national minimum hourly wage. France and Denmark also apply a minimum wage system during the apprenticeship period.

Figure 2

Training allowances by training sectors in Germany 2011 – average monthly amounts in €



BIBB press release 01/2012: Training allowances based on collective wage agreements 2011: significant increase in trainee salaries, URL: <http://www.bibb.de/en/60369.htm>

In Germany, employers pay apprentices a “training allowance”. Training allowances only constitute binding minimum amounts for companies. The amount is determined through a collective bargaining agreement between the social partners and differs significantly between economic sectors. In addition to this, there are often regional deviations within individual branches of trade and industry, particularly between West and East Germany. The BIBB's evaluation of training allowances shows a strong increase for 2014 based on collective wage agreements. The average training allowance for the whole of the Federal Republic of Germany in 2014 was 795 € per month, an increase of 4.5 percent compared to the previous year (see http://www.bibb.de/en/pressemitteilung_23931.php).

It should be mentioned that entering an apprenticeship programme in some countries might be governed by entry requirements. Naturally, this is especially relevant for systems that have apprenticeship programmes at different levels. In Germany and Austria, there are no entry requirements for dual training. However, in some countries the minimum admission requirement for first level apprenticeship programmes is graduation from the compulsory school to secondary

education. It is likely to be general educational considerations that will govern such entry requirements, rather than the nature of the apprenticeship model itself.

3.7 Award of a formal certificate (entitlement)

In so-called dual systems, apprenticeship training has to be provided in a systematic way, imparting vocational skills, knowledge and competences that are necessary for the individual to engage in qualified, skilled employment in an ever-changing working world. This requires training programmes to make it possible for apprentices to acquire requisite occupational experience. In Germany, the Vocational Training Act determines that initial training in a recognised training occupation may only be provided on the basis of the initial training regulations, which are legally binding for all recognised training occupations. This ensures binding quality standards for in-house vocational training for young persons, in keeping with legislation aimed at protecting children and young persons in public. VET prepares trainees for a range of skilled activities that are not specific to any single company profile and – as a main feature of the dual system – it is geared to promote the personality development process of trainees. Training for the majority of these occupations is provided within the framework of a total of around 340 recognised training occupations in Germany, 204 in Austria and 250 in Switzerland.

The aim of training is to enable young people to acquire occupational proficiency designed to make them capable of doing their work efficiently, effectively, innovatively, autonomously, and in cooperation with others. The capacity to practice an occupation in a qualified way includes, in particular, autonomous planning, implementation and control. This bundle of competences must be demonstrated in (final) examinations regulated by law.

In most EU countries, apprenticeship programmes as described above lead to a VET certificate at ISCED level 3, and in some cases apprenticeship programmes can result in a certificate at level 5. In the UK, for example, three levels of apprenticeship are offered, namely (i) Intermediate Level Apprenticeships (ISCED 3C), (ii) Advanced Level Apprenticeships (ISCED 3A & 3B) and (iii) Higher Apprenticeships (ISCED 5B). In Ireland, apprentices obtain an Advanced Certificate at ISCED level 4 on successful completion of the training (IKEI, 2012, p. 44).

In general, in order to obtain a certificate or award, it is a requirement that the apprentice complete the entire programme. In traditional dual systems, this is done within the framework of final examinations. The apprentices must show that they have acquired the necessary skills and practical and theoretical knowledge (from their companies) and that they have mastered *“the course material, as taught in vocational schools, that is central to the vocational training in question”* (BMBF, 2003). The authorities responsible for vocational training administer the final examination. These finals have a practical and a written component.

The responsible authorities include regional and sector organisations from the various branches of industry and commerce, e. g. chambers of industry and commerce or associations of handicrafts, liberal professions or agriculture that perform governmental functions in the domain of vocational training. The competent bodies can also be public authorities. The boards of examiners are made up of representatives of industry and labour and teachers from vocational schools. Successful candidates are awarded an examination certificate. Concomitantly, the vocational school issues a leaving certificate if the trainee has achieved at least adequate performance in all subjects. This certificate demonstrates the candidate's achievements.

However, a well-crafted apprenticeship system will include specific conditions under which alternative completion modalities are possible. This is necessary because the apprenticeship system must function within a dynamic market economy where enterprises are established, merge and close down. To ensure that an apprenticeship agreement covers all the relevant is-

sues, employers' associations, trade unions or public authorities develop templates for these agreements.

Based on the experiences from countries with apprenticeship systems, it is recommended that countries implementing apprenticeship programmes ensure that the programmes are part of the formal education system, offering clear and accessible entrance and exit points that facilitate further education and lifelong learning. This means that a successful completion should lead to nationally recognised VET qualifications, which – together with uniform examination standards – enjoy a high degree of social acceptance. Both should be jointly developed by the stakeholders of the VET system and awarded by an accredited body. Recognised training and examination standards and the existence of accredited awarding bodies are to be seen as a guarantee for the quality of training.

Example of alternative completion modalities in Denmark:

It is especially the lack of apprenticeship places that is challenging and demands new solutions.

In Denmark, the apprentice can take the company part at the VET centre as a special company designed module if no apprenticeship placement can be found.

Small companies can join together and offer one apprenticeship place ("apprenticeship-sharing").

In the same way, the grant employers can get for taking apprentices is used to influence the supply of apprenticeship places.

4 The Benefits of an Apprenticeship System

A contemporary apprenticeship system provides the different stakeholders with a number of benefits. In this section, we will take a closer look at the advantages to employers, apprentices and the state.

4.1 Benefits to employers

As the section below will show, the benefits to employers naturally depend on the design of the apprenticeship system. The benefits presented below are mainly related to VET systems in which apprenticeships makes up the main part of the VET system and in which the social partners are highly involved in the governance, management and delivery of the apprenticeship system.

► VET responding to employers' needs

From an employer's point of view, the apprenticeship system provides an opportunity to ensure that their training needs are considered at all levels and in all aspects of the training, thus making VET actually demand-driven. As shown in the section on social partner involvement, this naturally depends on the level of involvement and commitment of employers in the different aspects of the apprenticeship system. Ideally, employers are directly or via their respective associations involved in the governance, management, content and delivery of the training. Furthermore, through the workplace training periods, employers have the possibility of conveying the competencies they find necessary – naturally within the boundaries of the programme.

Data from the United Kingdom (8 April 2013) show that the employability effect of apprenticeships is high. Employers were asked to rate the employability of people with different qualifications on a scale of 1–10, where 1 was not at all employable and 10 was very employable. The mean rating for those with an apprenticeship was 7.36, the mean rating for all others was 6.382⁵, see <http://www.apprenticeships.org.uk/news-media/latest-news/article353.aspx>). Employers gave those with higher (degree) level apprenticeships an employability rating of 7.98.⁶ The UK offers three levels of apprenticeship. In general, employers found apprentices 15 percent more employable than others. For the higher degree level of apprenticeship, employers found them

Non-quantifiable benefits of training

The **risk of inappropriate placement** of employees and fluctuation are considerably lower for skilled workers trained internally than for people recruited via the job market.

Particularly significant is the **avoidance of shortfall costs** that arise when the demand for skilled workers cannot be met, resulting for instance in production bottlenecks and rejection of contracts.

There are often **performance differences** between internally trained skilled workers and those recruited via the job market. Internally trained workers have a better understanding of the company's working processes and its production and service programme.

Training can play an important part in improving the **company's public image**, particularly amongst customers and suppliers.

BEICHT/HERGET/WALDEN (2005), bwp Special Edition, http://www.bibb.de/dokumente/pdf/a1_bwp_special-edition_beicht.pdf

⁵ The percentage increase was calculated as $(7.36 - 6.382) / 6.382 \times 100 = 15\%$

⁶ The percentage increase was calculated as $(7.98 - 6.382) / 6.382 \times 100 = 25\%$. Ibid.

25 percent more employable than people with other kinds of education (see <http://www.apprenticeships.org.uk/news-media/latest-news/article353.aspx>).

► Recruitment benefit

Employers find that the apprentice system offers them the best possible way of assessing the apprentice for future recruitment, thus minimising the risk of recruiting the “wrong” people. This facilitates meeting the company’s long-term demand for competent and skilled workers in an efficient way. Training of the apprentice in the precise skills that the company needs as well as in company values and cultures preserves know-how and knowledge within the company and facilitates the transition from apprentice to employee. Survey results from Flanders, Belgium, covering the lowest apprenticeship track, found that three out of four employers hired the apprentices after graduation. After 36 months, half of them were still with the company, which is a high rate considering that many people change jobs frequently, especially during the early years of their career (DE RICK, 2014).

► Financial benefits

A general observation echoed by employers is that an apprentice is expensive in the first period of the programme because of the naturally low productivity. Sometime around halfway through the programme, the costs begin to equal productivity, and by the end of the programme, the employer actually has a productivity gain.

The wage (or allowance) paid to the apprentice can recognise this. In Denmark, for example, the apprentice wage increases over the apprenticeship period and employers get compensation for the wage costs when the apprentice is at the VET institution. In Austria, the state co-finances indirectly a part of the costs of in-company training by reducing the company’s taxable profits. Furthermore, the health insurance contributions and the contributions to accident insurance are waived for the first two years of apprenticeship or, respectively, for the entire training period for the employer and the apprentice (BMWFI, 2012, p.18). Such initiatives and others (direct grants and tax incentives) are introduced to lower the cost of taking on an apprentice.

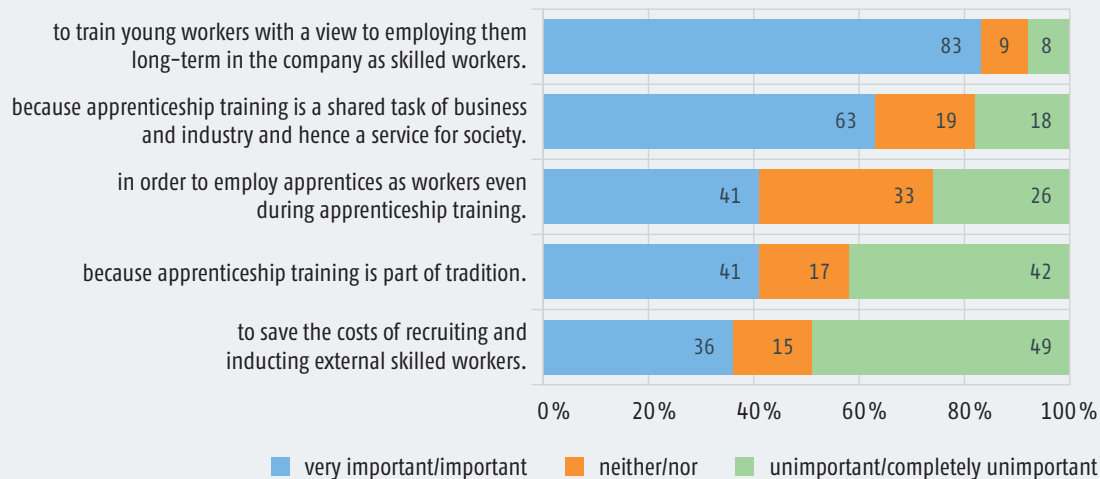
The time spent on training and supervision of the apprentice is normally the highest cost. Usually one skilled worker or craftsperson is engaged in the training and supervision. To cover all the training aspects, other staff members may be involved directly or indirectly. The survey from Flanders, Belgium, mentioned above shows that, on average, 2.6 people are involved in the apprenticeship training, which should also apply to smaller companies. This might be a surprisingly high number of persons involved, and will probably also depend on the structure of the apprenticeship programme, i. e. the distribution of subjects learned at the VET institution and in the company, as well as the way production is organised. The survey also showed that the primary mentor spends on average one third of the working hours on supervision and guidance. In larger companies, a team of mentors follow two or more apprentices at the same time (DE RICK, 2008).

Studies undertaken to establish the cost-benefits of apprenticeships seem inconclusive. Studies indicate that net costs in Austria are below those estimated for Germany, while in Switzerland (a non-EU member), there are, on average, net benefits (LASNIGG, 2008, p.166). Evidence from Germany suggests that the way apprenticeships are organised at the company level influences the benefits of the company. The benefits that the provision of in-company vocational training offers enterprises consist of various elements that can be assessed only partly in monetary terms. The Cost-Benefit-Survey which was conducted by BIBB in 2012 determined which of the elements were the most important for companies in Germany to provide in-company-training. The 2044 firms in the sample were asked to assess a number of statements that describe

different aspects of these benefits. The respondents answered on the basis of a scale from 1 (very important) to 5 (not important at all):

Figure 3

Germany: Reasons for providing in-company vocational training (in %, 2012)



Source: *Apprenticeship training in Germany remains investment-focused – results of BIBB Cost-Benefit Survey 2012/13*, ANIKA JANSEN | HARALD PFEIFER | GUDRUN SCHÖNFELD | FELIX WENZELMANN, BIBB Report Issue 1/2015, <https://www.bibb.de/en/25852.php>

The evidence shows that there are considerable differences in the ways apprenticeships are managed in similar companies, which in turn influences net benefits. This means that companies themselves can influence the benefits they derive from apprenticeships to a certain extent through the way they organize the apprenticeship (RAUNER/HEINEMANN/PIENING/BISCHOFF, 2008, p.173). A fair guess would be that the costs and benefits of apprenticeships depend on how the system is designed, the involvement of employers, incentives provided, the tradition for apprenticeships, etc. – in other words, how the entire system is integrated into the national education and business culture and tradition.

Furthermore, the real benefits to employers can only be viewed in relation to the alternatives. One such alternative would be an entirely school-based VET system financed through taxes and fees, but a relevant institution-based system would mean high public costs, which can only be covered through taxes and fees. The alternative could therefore mean higher corporate taxes and fees. Moreover, a full-time VET institution-based system might not offer employers the same influence at all level, which would compromise the relevance of the training provided. Alternatively, employers could also train their own staff, which might well turn out to be quite costly and would become a barrier to mobility. The European trend, which is mirrored internationally, points towards the introduction of workplace training schemes focusing on apprenticeship-like systems and a high degree of social partner involvement.

In short, the apprenticeship system has the following advantages to employers:

- Apprentices will be trained to perform a job to agreed and recognised national standards, which have been set by sector or trade representatives. In this way, apprentices gain competencies necessary to do the job, unlike those who follow a fully VET institution-based or purely academic route – apprenticeship in that sense secures the supply of skilled workers;

- ▶ An apprenticeship system can be an effective way of tackling human resource needs because:
 - ▶ Employers will have an employee who is not only trained to agreed national standards, but also understands the employer's unique workplace conditions;
 - ▶ It will allow employers to develop a pool of experienced employees of different ages so that they will be better able to plan how to meet future workforce needs due to expansion plans or the retirement of senior staff members.
- ▶ The alternating training at the VET institution will provide the necessary theoretical competencies, which an employer might find difficult to teach;
- ▶ Motivation is high because the apprentices:
 - ▶ are paid during the apprenticeship period;
 - ▶ will learn by a combination of VET institution-based and workplace learning, which many people consider a much better way of learning, by doing things rather than having to remember facts;
 - ▶ can see that the employer is investing in their training and taking an active part in their development. This investment will support the apprentice-employer relationship, leading to greater motivation and company loyalty.

4.2 Benefits to the apprentice

▶ Good opportunities on the labour market

The VET students are interested in obtaining competencies that make them employable and strengthen their chance of accessing the labour market immediately after the completion of training. Due to its high level of market relevance, the apprenticeship gives the apprentice the necessary competencies, bundled in a recognised qualification and documented with a recognised certificate. Furthermore, the acquisition of “soft skills” that are difficult to obtain at a VET institution will also contribute to improved employability and mobility. Studies from Denmark and Finland show that soft skills like customer orientation, initiative, problem-solving skills, ability to use information sources, entrepreneurship and maturity in general were best acquired through workplace training at companies. Students even viewed simulation practices such as training workshops at VET institutions as not natural and quite useless.

Vocational expertise acquired in an apprenticeship and job experience make skilled workers largely independent of close on-the-job instruction and supervision, which is the basis to adapt to changing or altered job requirements. As mentioned above, many apprentices continue in a permanent position at the same employer after graduation. In some VET systems, apprenticeships are the starting point for vocational career pathways leading to a master, technical or engineering degree (level 5 and 6 EQF).

▶ Learning while earning

The apprentices benefit socially and economically from the system as they are gainfully employed and are thus in a position to combine “learning with earning”. This is a strong motivating factor, which facilitates as many as possible of a cohort getting a post-secondary education.

Payment structures are similar in Denmark, Germany and other countries. In Germany, the training allowance is determined in the Vocational Training Act, which stipulates that employers shall pay apprentices an appropriate allowance (sec 17, BBIG). The question of what is “appropriate” was answered by administrative and employment courts: “A remuneration is deemed to be appropriate if it provides discernible support for the living costs of the trainee as well as constituting a minimum remuneration for the work performance of the apprentice within the respective branch of trade and industry” (BEICHT/KREWERTH, 2010). In Germany, the average apprentice wages are a third of an equivalently skilled “adult wage” and increase over the years.

In the UK, apprentices receive the apprenticeship national minimum wage according to the table below. As the table shows, the minimum apprenticeship wage is between 27 percent and 53 percent lower than the minimum wage for the different age groups.

Table 5

UK national minimum wage rate per hour by year, age and status in £

Year	21 and over	18 to 20	Under 18	Apprentice*
2013	7.57	6.04	4.46	3.22
2012	7.43	5.98	4.42	3.18
2011	7.30	5.98	4.42	3.12
2010	7.12	5.90	4.37	3.00

Note: Applies to persons of at least school leaving age. *) This rate is for apprentices under 19 or those in their first year. At age 19 or over and beyond the first year, the apprentice gets the rate that applies to his/her age. All apprentices are expected to work for at least 30 hours a week, except in exceptional circumstances.

Source: National Minimum Wage rates. <https://www.gov.uk/national-minimum-wage-rates>

Apprentices in France receive a minimum apprenticeship wage paid by the employer that is a percentage of the minimum wage, just like in the UK. As presented in the table below, apprenticeship wages vary according to the age of the apprentice and the year of the apprenticeship.

Table 6

France: Apprenticeship wage per month in € (2013)

Year	21 and over	18 to 20	Under 18
1	53 % of minimum wage €758	41 % of minimum wage €586	25 % of minimum wage €358
2	61 % of minimum wage €872	49 % of minimum wage €701	37 % of minimum wage €529
3	78 % of minimum wage €1,116	65 % of minimum wage €930	53 % of minimum wage €758

Source: SERVICE PUBLIC. "Comparative analysis of apparent good practice in Apprenticeship Systems." France, 2011. The minimum wage was 1,430 € in 2013. URL: <http://vosdroits.service-public.fr/particuliers/F2300.xhtml>

4.3 Benefits to the state

As for the state, apprenticeships also offer the state a range of benefits.

► Consensus

Apprenticeships offer a consensus approach to VET provision between the traditional providers – VET institutions – and the end users – the companies and their future employees, with their direct involvement at all levels of the system. The main partnership tool is the social dialogue through which the different interests find workable solutions. This makes the role of the government more manageable; VET becomes a field for cooperation rather than a political battleground.

► Shared funding

Furthermore, there is a relief of the state VET budget due to the sharing of funding between the public and the business sector (private and public employers) because employers pay for the in-company training, including the trainers' and apprentices' wages and allowances, as well as training related equipment.

► Facilitation of economic development

Productivity is linked to the context in which skills are developed. Recent research findings show that *“the impact of skills on productivity is more pronounced in countries where VET is based on apprenticeship training”* (CEDEFOP, p. 8). VET that takes place at school and in companies facilitates economic development because it provides a well-trained workforce with practice-oriented competencies, which is the basis for economic development. In addition, due to the improved employability of the apprentices, apprenticeships are better suited to facilitate the difficult transition from training to work. This means that the design of the apprenticeship system can be linked to employment policies.

► Addressing economic challenges (youth unemployment and skills shortages)

The societal consequences of the 2008 economic crises have become tangible as the youth unemployment rates have increased throughout Europe. Promoting apprenticeships is one of the tools used to facilitate the transfer from school to work and to facilitate the entry of unemployed youth into the labour market.

Incentives have also been introduced to increase the number of apprenticeship places – or to address the decline in apprenticeship places during an economic crisis. Since December 2010, Danish employers can receive a financial reward (approximately 9,333 €) over a period of 24 months if they take on an apprentice. Similar initiatives have been taken or are under consideration in Bulgaria (<http://www.eurofound.europa.eu/eiro/2012/06/articles/bg1206011i.htm>), Norway and Sweden (<http://www.eurofound.europa.eu/eiro/2012/08/articles/se1208019i.htm>). They have been formulated as a “Pact” between the social partners (EUROLINE, 2012).

In 2006, the German Federal Ministry for Education and Research set up a programme called “JOBSTARTER”. The programme focused on the implementation of the policies adopted by the “National Pact for Training and Young Skilled Workers in Germany” and addressed the proposals from the 2009 Training Initiative and the 2013 Demographic Summit. The aim was to secure the supply of young skilled workers by supporting small and medium-sized enterprises (SMEs) in offering training to every willing and capable young person. The Ministry for Education and Research has made funding of 125 million € available so far, including financing from the European Social Fund. Over 280 projects have been supported nationwide; 63,000 new and additional apprenticeship places have been created across Germany since 2006 (BMBF, 2013). These national initiatives are mirrored at the European level. In July 2013, the “European Alliance for Apprenticeships” was launched, aimed at fighting youth unemployment through a broad partnership of key employment and education stakeholders by improving the quality and the supply of apprenticeships (EUROPEAN COMMISSION, 2013).

► More relevant and efficient VET system

An apprenticeship system offers a strong learning environment because it offers practice-oriented and on-the-job experiences. The building of relevant competencies – both hard and soft – requires practice-oriented training at a relevant technological level. Technologies that change constantly and at an increasing pace mean that equipment and training facilities rapidly become

outdated. Publicly financed VET institutions are often unable to afford and maintain modern equipment and training facilities, which compromises a strong learning environment.

The apprenticeship system is more cost-effective, since it makes use of equipment already available at employers. Employers have access to workers and staff members who fully understand how to use the modern equipment, can explain the associated techniques, the entire production process, and not least, what it is like to be an employee of the company and what soft skills are required. The apprentice learns how to apply vocational competencies in a work environment, for example how to work alongside workers with a different vocational background on a common assignment or how to deal with customers. Such demanded soft skills are difficult to develop in a VET institutional environment.

International trends clearly indicate that workplace oriented training is the superior form of training environment. Consequently, modern apprenticeships provide a unique and strong learning environment.

Table 7

Overview of stakeholders' benefits from apprenticeships

Stakeholders	Benefits
Employers	<ul style="list-style-type: none"> ▶ Training to agreed national standards set by sector or trade employers' representatives. In this way, apprentices gain competencies necessary to do the job, unlike those who follow a fully VET institution-based or purely academic route; ▶ Effective way of tackling human resources needs because: <ul style="list-style-type: none"> ▶ The employer will have an employee who is not only trained to agreed national standards but also understands the individual employer's unique workplace conditions; ▶ It will allow employers to develop a pool of experienced employees of different ages so that they will be better able to plan to meet future workforce needs due to expansion plans or the retirement of senior staff members; ▶ Training at the VET institution provides the necessary theoretical competencies, which an employer might find difficult to teach; ▶ Motivation is high because the apprentice: <ul style="list-style-type: none"> ▶ is paid during the apprenticeship period; ▶ learns by a combination of attending VET institution and on-the-job learning, which many find is a much better way of learning – by doing things rather than having to remember facts; ▶ can see that the employer is investing in his training and plays an active part in his development. This investment cements the apprentice-employer relationship, leading to greater motivation and company loyalty.
Apprentices	<ul style="list-style-type: none"> ▶ Improvement of accessing the labour market due to acquisition of employable competencies; ▶ Social and economic benefits through employment with a company (combines "learning with earning"); ▶ Improved employability through apprenticeship certificate proving the holder's competencies and skills in both theory and practice; ▶ Improved employability and mobility due to the acquisition of soft skills and the chance to work and learn on modern equipment and latest technologies; ▶ A chance for employment to young people who are inclined towards practical and manual work; ▶ Preparation for life-long learning designed to keep or improve the apprentices' place in the labour market.
State	<ul style="list-style-type: none"> ▶ Availability of a well-trained workforce as the basis for economic growth at the national level; ▶ More manageable role of government by facilitating social dialogue and cooperation between social partners; ▶ Relief of state VET budget due to shared funding with employers; ▶ Contribution to employment due to improved employability of apprentices.

(Continuing Table 7)

Stakeholders	Benefits
Learning environment	<ul style="list-style-type: none">▶ Theory and practice integrated into one VET programme;▶ Strong on-the-job learning environment;▶ Modern and relevant technology level;▶ Real environment to acquire soft skills.

Poulsen (2014) own source inspired by several sources

5 Options and Challenges of Transferring Apprenticeship Components

The above description of mainly European apprenticeship systems shows common features and illustrates that such systems are well rooted in and reflective of special social and cultural traditions. Such social and cultural peculiarities will prevent system transfer. However, system transfer is also discouraged for other reasons. The entire process of designing and establishing an apprenticeship system is in itself an important and necessary part of introducing a successful apprenticeship system. Below we will take a quick look at the introduction of apprenticeships in mainly East European countries. We will then discuss some of the challenges in their mainstreaming.

5.1 Hallmarks in mainstreaming apprenticeship schemes

Generalizing the experiences of EU member states is challenging because of the quite different apprenticeship models. Consequently, it is difficult to point to clear success factors that could be a road map to the establishment of an apprenticeship model. However, almost all countries agree that apprenticeships make a valuable contribution to the relevance of a VET system. A review across the EU member states (Ecorys, 2012) identified a wide range of success factors that underpin successful traineeship and apprenticeship models (see more at <http://ec.europa.eu/social/main.jsp?catId=1045&intPageId=1867&langId=en>). The identified factors are:

- ▶ Robust institutional and regulatory framework;
- ▶ Strong social partner involvement;
- ▶ High employer involvement;
- ▶ Close partnerships between employers and education institutions;
- ▶ Adequate funding;
- ▶ Close linkages between schemes and actual labour market needs;
- ▶ High levels of effective quality assurance;
- ▶ Processes to match individuals and host companies;
- ▶ Good balance between theoretical school-based training with practical work-related activities;
- ▶ Existence of an apprenticeship/traineeship agreement;
- ▶ Certification of skills learned and other learning outcomes.

Besides identifying and addressing challenges, one should analyze the factors that facilitate an apprenticeship system's success. The European Conference "Advice on Apprenticeship and Traineeship schemes with ESF support" in June 2013 tried, among other things, to identify hallmarks of good practice in implementing apprenticeship and traineeship schemes (conference report available at <http://ec.europa.eu/social/BlobServlet?docId=10348&langId=en>). The following hallmarks were identified:

Partnership	<ul style="list-style-type: none"> ▶ Very close partnership between schools/training centres and companies at local level; ▶ Broadening partnerships beyond the tripartite of government/employers/trade unions to include other voices, particularly chambers of commerce and craft chambers, which give a voice to SMEs, as well as youth organisations and the apprentices/trainees themselves; ▶ Better definition of needs by employers; ▶ Good contracts and learning agreements, including well-defined learning outcomes – which are then monitored during each placement.
Legal Framework	<ul style="list-style-type: none"> ▶ Making the participation of the key actors mandatory by law; ▶ Effective regulation, with robust legal frameworks, was considered essential to safeguarding quality; ▶ A clearly codified employment status for apprentices; ▶ Avoiding bureaucratic, multi-level governance. Successful implementation requires strong leadership informed by consideration of actor needs and recommendations.
Content and progression	<ul style="list-style-type: none"> ▶ Individualised coaching for apprentices before, during and after their placement to ensure a high quality experience and to ease the transition into full employment; ▶ Avoiding dead-end and over-specialised employment by increasing the permeability between occupations, training and education systems; ▶ Effective schemes tend to cover a wide range of occupations and offer rich learning contexts; ▶ Support for participants' transition to further and higher education, as well as to employment; ▶ Equality of access – the inclusion of minorities and gender equality were regarded as essential.

Notwithstanding the above-mentioned advantages and strengths of apprenticeships, there are a number of challenges both with regard to establishing such a system and to maintaining it. In this section, we will discuss some of the main challenges that apprenticeship models are currently facing. The different challenges must be seen as interlinked and can only be addressed from that understanding.

5.2 Challenges in establishing and/or maintaining apprenticeship models

▶ Lack of sufficient and/or adequate apprenticeship places

The strength of an apprenticeship system – the practical nature of the training – also has a downside in that access to training is market driven. In times of financial difficulties (for individual companies, one or several sectors or the entire economy), for example during economic crises, it has proven exceedingly difficult to get companies to offer the necessary apprenticeship places.

Not all employers that could take an apprentice are in fact training an apprentice. They are “free riders” because they do not share the training responsibility, but do take advantage of other employers’ willingness to train apprentices when hiring skilled workers. The mutual responsibility among employers as well as the rate of unionisation make it possible for employers’ associations to promote apprenticeships is an important factor in establishing support for the system. The UK is an example showing how difficult it has been to revive the apprenticeship system because of employers’ reluctance to embrace the system fully (GOSPEL, 1997).

The decreasing will of companies to offer apprenticeships leads to an increasing number of young persons and adolescents who are prevented from taking a direct route into apprenticeship. Some young people will be unsuccessful in their application if the number of training places offered by companies does not meet the actual demand. This tends to affect young people with lower school leaving qualifications, worse final school reports and/or those living in structurally weak regions. This means that VET institutions will have to offer on-the-job-like practice to compensate for the lack of apprenticeship places. Austria and Germany have been successful in using public funds to provide subsidies directly or via support programmes to employers who take on additional apprentices. Through the subsidies, the gap between supply and demand of apprentice places has been closed (STEEDMAN, 2011, p. 98).

► Need to support companies in providing training

Naturally, the length of the entire VET programme and/or the length of the period spent at the company are important factors that influence the ability and willingness of employers to offer places for apprentices. VET programmes with relatively long periods at employers might discourage some companies in some countries from taking on an apprentice.

On the other hand, the will to provide training is not enough. One further quality characteristic of apprenticeships is that the companies meet the organisational and pedagogical requirements regarding the qualification of teaching and training staff. Small and medium sized enterprises are often unable to provide the entire practical on-the-job subjects to be covered and often lack suitable training personnel, which is why the apprenticeship scheme should be designed in a flexible manner. For example, the Danish model makes it possible for smaller companies to offer a joint apprenticeship place. This means that two to three companies can jointly offer all the subjects required. Consequently, to harness the benefits of involving all types of employers, it is important that the design of the apprenticeship model makes it possible for all types of employers to participate.

In Germany, “cooperative training schemes” such as “inter-company training centres” or “coherent training structures/training networks” took on renewed importance particularly in the context of the economic crisis in the New Länder after the Reunification. The last two decades have shown that the promotion of training networks is considered to be a suitable concept that not only increases the involvement of companies in training, but also reduces the susceptibility of training to the economic climate. Furthermore, the systematic switching of learning venues helps maintain and improve the quality of training, especially in small and medium-sized enterprises. Since the 1990s, cooperative training schemes have received targeted public funding from the support programs of the federal government, the states and the European Union.

“Apprentice-sharing”: Approaches from Germany

Lead enterprise with partner enterprise model: the lead enterprise bears the overall responsibility for training, but parts of the training are conducted in various partner enterprises.

“Training to order” model: some periods of training take place outside the regular enterprise, perhaps in a nearby large enterprise with a training workshop, on the basis of an order and against reimbursement of costs.

“Training consortium” model: several small and medium sized enterprises (SME) work together and take on trainees. If one enterprise cannot provide a specific content, the trainee goes into the other enterprise (rotation principle). The enterprises also sign a cooperation agreement; they work together equally and train their own trainees independently.

“Training association” model: the individual enterprises establish an organisation for the purpose of the training, which takes over the organisational tasks (contracts, etc.), while the master enterprises offer the training. The organs of the association are the general meeting and the honorary committee. A statute regulates rights and obligations of the members.

Source: ReferNet Germany: Country Report Germany 2012, p. 17.

► Ensuring transferable competences based on recognised vocational standards

Often it is not clear that competencies acquired in workplace training within one enterprise are equally “transferable” to other enterprises, either in the same or in another sector. If this is not guaranteed, the system will not be attractive for either students or employers as the lack of transferability will lock the apprentice in a certain job and limit career advancement and mobility. Although many employers are interested in keeping the apprentice they have “invested in”, job mobility provides advantages and facilitates a vibrant business environment.

Binding and recognised vocational standards are economically and educationally important, because they are the prime instruments to ensure the relevance, transparency and quality of the education and training process outcomes. They form the basis for qualification portability. There are two salient aspects associated with training in a recognised vocation: the respective training programmes prepare apprentices for a range of skilled activities that are not specific to any single company profile, and they are geared to promoting the personality development process of apprentices. The primary aim of apprenticeships is to enable young people to acquire comprehensive vocational competence designed to make them capable of doing their work efficiently, effectively, innovatively, autonomously, and in cooperation with others. This includes, in particular, autonomous planning, implementation and control. This bundle of competences must be demonstrated in examinations regulated by law. Students will be interested in those transferable competences because they are a precondition for mobility.

Ensuring transferable competences based on recognised vocational standards points to the importance of ensuring that the school and enterprise based training jointly constitutes one VET programme and the enterprises are obliged to train apprentices in all the tasks to be covered by the VET programme.

► Drop-out and poaching by competitors

Some employer might be reluctant to take on an apprentice because they are afraid that the apprentice might not finish the programme and drop out midway, which would be a significant cost to the employer. Drop-outs are naturally a risk that cannot be eliminated, but it can be reduced through follow-up and proper counselling for the VET institution.

Poaching of apprentices by competitors when they have become skilled workers and can be an asset to the employer is also a risk that might influence some employers' view of apprenticeships. The design of the apprenticeship model, discipline among employers "enforced" by employers' associations, and reimbursement and compensation schemes can to some extent address the challenge.

► Flexibility to address development challenges

As the world of work changes ever faster, it is important that the apprenticeship model is designed in such a way that it can respond quickly to, for example, demands for the adjustment of existing VET programmes and the establishment of new ones. The increasingly higher technology level required within nearly all professions increased the academic competence and/or occupational proficiency required. The complexity of some products and production processes means higher equipment costs, which influences the apprenticeship models.

The higher technology level might shift the balance between school and company based training, because a school environment might be better suited for learning theory. Furthermore, as production equipment becomes more complex and costly, companies might be less willing to use such equipment for training and thereby running the risk that equipment might be damaged or frequently in need of maintenance. In such a situation, companies will request that the school based training include further practical training before the apprentice practices on company equipment. The apprenticeship model should be able to quickly adjust to such changes.

Quickly adapting VET programmes is not only a matter of flexible procedure, but also a question of the social partners' flexibility, which should not end in a position where self-interest impedes change. The social partners should not become entrenched in the old ways by, for example, defending positions of the past that are not in their long-term interest. Consequently, flexibility is needed both within the apprenticeship system and among the stakeholders; that is a prerequisite for the apprenticeship system's continuing relevance.

► Anticipation of future skills needs

Quality needs analyses and research play an important role in ensuring the quality and relevance of VET related policy and legislation. Models and processes for forecasting future skills needs are of importance in VET reform. Reliable forecasting informs the development of standards, curricula and contents that aim to ensure the quality of learners' knowledge, skills and competences and, thus, their employment chances in current and future workforces. Against that background, labour market forecasting has three purposes:

(1) to assess what the implications of existing trends in occupations are,

(2) to analyze what the labour market situation for certain occupations is and what changes can be expected,

(3) to evaluate how policy measures will affect the level and structure of employment.

Different methods have been used in different OECD and Central European countries (ETF, 2001) in order to provide useful information related to specific sectors and occupations for individuals and policy makers. Only occupational analysis provides sufficiently specific information for training and education requirements (MANSFIELD, 2001, p. VII).

Poor forecasting can result in IVET training provision that lacks relevance for employers or in an inappropriate supply of graduates, with the result that skills needs and labour shortages cannot be met or the "supply" of certain qualified employment candidates outweighs demand. These factors have a direct bearing on the attractiveness of an IVET pathway for learners (ENQA-VET, 2009, p. 18). The social partners should also be involved in early skills identification issues, mainly in the context of modernising initial and further training programmes. When renewing and updating training programmes due to changed qualification demands, experts from the social partners should form working groups. All these activities are seen as important contributions to the early identification of qualification needs.

► Enabling career pathways

A part of the attractiveness of the apprenticeship pathway lies in its strong focus on the labour market and in preparing young people to access jobs as skilled workers. In a lot of countries, this strong focus, however, has also led to a separation of this pathway from the general academic one. To make lifelong learning a reality, the apprenticeship model should provide pathways to

Skills forecasting in Finland:

The Finnish National Board of Education developed the **Mitenna Model** for anticipating vocational training and skills needs nationally and regionally. The method is based on statistical data. The Government set up the **Foresight Network** in 2005, comprising representatives from all ministries and the Prime Minister's Office. The Network's objectives are to coordinate ministries' foresight activities, promote foresight activities at the regional level and ensure that the outcomes inform policy-making. The Network keeps in contact with research institutions and publishes reports. Every year the Network organises a Foresight Forum, which functions as a medium of societal discussion between ministries, regional and local governments and labour market organizations. Both the Mitenna Model and the Foresight Network aim to improve the quality and relevance of VET by giving reliable and useful information about the type and amount of education needed to correspond to the skills needs for the future and to safeguard access to skilled labour. The information is used to steer VET, e.g. to target student intake, to detect bottlenecks in the labour force and to identify over-supply early. Regional anticipation and dialogue is stressed. The results benefit the students through career guidance. The results and outcomes of anticipation act as a resource for the Development Plan for Education and Research adopted by the Government every four years. The on-line information service for anticipation called ENSTI is based on the Mitenna Model and was developed particularly to serve the users and producers of anticipation data for education and the labour market.

Source: ENQA-VET (2009): Making IVET more attractive for learners, p. 18

tertiary VET or academic education. This is not only a question of educational exit and entry links, but also of how the apprenticeship programme is designed in practical ways to facilitate such a pathway.

European initiatives such as ECVET and EQF refer to exactly that topic. Generally, one can pinpoint that domestic and European issues have become interwoven over the last years. The aims of improved transparency of educational pathways, simplified access to the tertiary sector and more equal opportunities and transfer opportunities between the educational systems and levels are moving closer to the centre of education-policy initiatives. A high degree of transparency in the apprenticeship system is a prerequisite for being able to recognize and make use of opportunities for professional development. Standardized descriptions of acquired learning outcomes establish transparency. Learning outcomes and qualifications should be defined and formulated in a way that ensures the utmost compatibility between different educational pathways, education institutions, education systems, heterogeneous career paths and, last but not least, between the individual countries in Europe and abroad. The recognition of skills and competences should not be dependent on the path taken to acquire them.

Official Statement by the BIBB Board on the German Qualification Framework (GQF)

With regard to the alignment of qualifications within the GQF, the principle is that all levels must be achievable via various educational and career pathways. This is the only way of improving permeability and transparency between higher education and vocational education and training and of making such permeability and transparency more visible.

https://www.bibb.de/dokumente/pdf/HA_Stellungnahme_DQR_final_en.pdf

5.3 Establishing apprenticeship-like models: experiences from Central and Eastern European Countries (CEECs)

The tradition of apprenticeships will be an important factor for the success of the system. In countries where apprenticeships have been the main VET model for generations, the system is well anchored in the partnership between employers, trade unions and VET institutions. In countries where there is no such tradition, establishing an apprenticeship system that is more than a traineeship has proven difficult. The example of Mexico shows that, although the country has no apprenticeship tradition, it succeeded in incorporating some core elements into its (regional) VET system (CACERES-REEBS/SCHNEIDER, 2013) such as:

Learning venues:	Training mostly takes place at the company.
Training content:	Apprentices are trained in accordance with stipulated framework curricula and training descriptions in company-based and inter-company based training measures.
Training contract:	A training contract is concluded between the apprentice and the company providing training.
Registration with an accredited/competent body:	The training contracts are registered.
Apprenticeship allowances:	The contract stipulates a monthly training allowance of approximately 100 €. This corresponds to the current minimum wage.
Reporting:	Apprentices complete weekly report books.

Source: CACERES-REEBS/SCHNEIDER 2013

Even though a bequeathed apprenticeship model is not transferable one-to-one to other countries, numerous states in and beyond Europe are currently picking up on experiences and best practices and seeking to use this knowledge for their own modernisation processes in education and training and to adapt it to meet their national needs. However, experiences from European countries in transition are not encouraging. Some examples might illustrate this observation:

In **Slovenia**, the necessary support from employers could not be mustered and in **Macedonia**, an introduction of the German dual model swallowed up almost all apprenticeship placements, illustrating the difficulty of VET system export (NIELSEN, 2013, p. 104). A new attempt started in November 2015 in the context of the Erasmus+ project „New models of work based learning” (KA 3 Support for policy reform). The project aims to develop three different models of work based learning and, based on these models, to prepare policy recommendations on how to put work based learning into practice in Slovenia (and also in Latvia and Bulgaria).

The apprenticeship programmes introduced in **Romania** (Apprenticeship Act 2005) have also proven difficult to scale up. According to the special law that regulates apprenticeships in Romania, namely the Apprenticeship Act of 2005 (Law no. 279/2005), apprenticeships are regarded as a special and distinct form of vocational training combining employment, in the form of a fixed-duration contract, with vocational training, both practical and theoretical, to be provided by the employer. According to the regulations, individuals aged between 16 and 25 years are entitled to apprenticeships, provided that they have had no prior qualification in the relevant trade. The contract cannot be longer than three years or shorter than six months, depending on the qualification to be provided. Actually, the regulations state that the contract cannot exceed 24 months, so as to be in full compliance with the provisions of the Labour Code for fixed-duration contracts. All enterprise can engage in apprenticeship contracts, provided that they have the necessary facilities and they provide the local Labour Directorate of the Ministry of Labour with proof that they have a specifically designed training programme. The apprentice is considered a full-time employee of the firm and is entitled to all associated rights, including the minimum wage and all working time regulations. The apprentice also has to benefit from theoretical training to be provided within the working hours. Employers have to provide accommodation for the apprentices if they are unable to commute between home and work (REFERNET ROMANIA, 2012 p. 28). The requirements for enterprises taking on apprentices are quite demanding on employers, which seems to have discouraged companies from taking on apprentices. In an attempt to facilitate apprenticeship approval, the procedures have been simplified (EUROPEAN COMMISSION, 2013a, p. 36). Further initiatives to strengthen the system might include better incentives for employers, improved coordination and policy integration between education and labour initiatives.

Within **Bulgaria's** National Programme for Modernisation of Vocational Education and Training, the implementation of an apprenticeship model was strongly supported. In 2010, 22 partnerships were financed and 1,348 students were provided with an opportunity for practical training in enterprises. Despite this support, the apprenticeship model forms only an insignificant part of the overall VET system (EUROPEAN COMMISSION, 2013a, p. 34). The same applies for **Estonia**, where VET can be provided both as school and workplace based training (apprenticeship). In 2011, the apprenticeship stream accommodated only 2.1 percent of all VET students.⁷ The **Latvian apprenticeship** system is only a small and separate part of the VET system, which is closely linked to the Latvian Chamber of Crafts on the administrative level. Although governed by law (Law on Crafts 1993), apprenticeship programmes are not incorporated into the national education programme classification (REFERNET LATVIA, 2012, p. 18).

⁷ “The number of students in school based initial vocational training in the 2010/11 academic year was 27,448, whereas the number of students in workplace based initial vocational training (apprenticeship) was 564” (EUROPEAN COMMISSION, 2012, p. 33).

The **Lithuanian Law on VET** that entered into force on 1 January 2008 introduced apprenticeships (“Pameistrystės Profesinio Mokymo Organizavimo Forma”) as a track within the VET system, whereby practical training was to comprise at least 60–70 percent of the total time allocated to teaching vocational subjects. A student and a company sign a labour contract with each other and a trilateral training agreement with the school. Only a few schools provide a work-based apprenticeship route, and they are limited to a few professions (EUROPEAN COMMISSION, 2012, p. 47). Although the apprenticeship model includes many of the “classical” apprenticeship features, it is hardly used, which is the reason behind a 2013 European Structural Fund aimed at developing apprenticeships further (REFERNET LITHUANIA, 2012, p. 9).

Although changes to the **Czech Republic School Act** in 2009 and 2011 introduced apprenticeship certificates, these do not really qualify as apprenticeships as defined by the EU (“Czech Republic. VET in Europe – Country report 2012”. CEDEFOP, p. 23. http://libserver.cedefop.europa.eu/vetelib/2012/2012_CR_CZ.pdf). The same seems true for **Slovakia** (“Slovakia. VET in Europe – Country report 2012”. CEDEFOP, pp. 12, 15 & 22. http://libserver.cedefop.europa.eu/vetelib/2012/2012_CR_SK.pdf).

Hungary has introduced a new VET system where secondary VET has far more practical training provided – in whole or in part – either as “institution based VET” (practical training is organised at any ‘practical training place’ maintained/operated by either a VET school, a legal entity, an economic organization, an individual entrepreneur or a ‘central training place’ of a Regional Integrated Vocational Training Centre); “Alternance training” (practical training provided on the basis of a cooperation agreement between a vocational school and an enterprise) or “Apprenticeship training” (practical training provided by an enterprise on the basis of a student contract made between a student and an enterprise, under the supervision of a representative of the relevant local economic chamber)” (EUROPEAN COMMISSION, 2012, p. 43 and REFERNET HUNGARY, 2012, pp. 21–23).

(4) In the year 2012 an EU twinning project was set up by the EU Commission and the Ministry of Education and Science of Ukraine with a view to supporting reform processes. As in many countries, Ukrainian vocational education and training suffers from a poor reputation and is considered a stopgap for those who cannot go to university. The vocational education and training system does not incorporate occupational career-progression pathways or accessible routes to higher education. Accordingly, the 2010 placement rate was a mere 6.7 percent of young people choosing vocational establishments. In parallel, the ILO Labour Force Survey for the same year forecast a level of demand for skilled workers that can only be satisfied to 40 percent by vocational training, even in the medium term (cf. text of tender document UA EU ENPI, 2011, p. 3).

Another problem is that vocational education and training and the world of work coexist alongside each other, but are largely disconnected. Occupational skill-profiles (“occupational standards”) do not exist or are not reflected in the vocational training standards, i. e. vocational school courses and curricula (“educational standards”). Against this backdrop, the EU twinning project “Modernisation of legal standards and principles for vocational education in line with the European policy on lifelong learning” was set up in the year 2012. The objective was to advise decision-makers from politics and public administration on drawing up an education act to bring about a Ukrainian qualifications framework and to work through the quality assurance and standards development questions that arose in the process of developing vocational curricula in five economic sectors.

Other aims were to promote workplace-based learning, to promote social partnership as the steering mechanism in vocational education and thus to forge stronger links between the “world of education” and the “world of work”. On the Ukrainian side, a broad alliance of actors from

politics and research threw their weight behind the project (cf. box on project partners, below). Assistance from EU Member States came from a Danish-German consortium consisting of Denmark's National Centre for Vocational Education (METROPOL) and the vocational education centre Aarhustech along with BIBB. The project was launched in January 2013 and its term was extended until April 2015 because of the political situation in February/March 2014.

The Ukrainian example showed how difficult it is to put apprenticeship schemes into practice, although the country has already been re-introducing the links to employers to provide the necessary practical training. Different laws have been adjusted, introducing traineeship and apprenticeship models. The traineeship model is the more widely used of the two. However, a clear distinction between traineeship and apprenticeship does not always seem to be observed and traineeships are discussed as being apprenticeships, which is not correct and could lead to confusion.

In the Ukrainian context, *traineeship* is understood as an integrated part of the VET programmes. The legal framework establishes that VET schools and employers are obliged to find traineeship places for VET students and mentions the conditions governing the traineeship. The traineeship is an agreement between the VET school and the individual employers. Employers should offer an allowance that is split 50/50 between the student and the VET school (information is based on interviews with stakeholders). The financial aspect is likely a strong incentive for both the VET schools and students to ensure that local companies actually offer the needed traineeships to VET students. It seems to be a general rule that 40 percent of the training should be in the form of traineeships at an employer. It is not clear how well the traineeships are integrated into the VET programmes or if employers view these traineeships as offering VET students the necessary insights into the world of work. However, discussions with VET schools reveal that it can be difficult to find the necessary traineeship places. It appears common that companies refuse to accept trainees or ask for money to take trainees. To meet the legal requirement of offering traineeships, some VET school directors have felt pressured to give in to employers' requests, which has resulted in problems in some cases and even in accusations of unlawful actions. It is difficult to ascertain how common the problem of identifying places for traineeships currently is. However, the problems indicate that the traineeship model is not widely accepted among most employers, which is why they participate half-heartedly or refuse to participate. The model needs to be reviewed and adjusted in order to remain relevant for students and employers. The apprenticeship model seems not to be widely used.

Ways and suggestions to enhance the practical part of training by strengthening traineeship schemes: the case of Ukraine (mid-term)

In the Ukraine, most VET institutions already have some level of cooperation with local employers, which could well be a strong point of departure for its development. Accordingly, it will be relevant to strengthen the traineeship model taking a VET institution level approach. Building on the existing VET institution – employer partnerships, the development of the traineeship model could be furthered. An assessment of the existing traineeship model should be undertaken as a first step.

To address the need for work-place training and to strengthen the relevance of VET programmes, it seems more feasible to build on the existing traineeships and enhance their effectiveness in term of becoming better integrated into the VET programmes, adding quality requirements to the traineeships (for example, ensuring the length of the traineeship actually makes it possible for the trainee to learn something), linking them to the final examination of the students, etc. This should be done with a view to developing the traineeships so that individual contacts between VET institutions and employers become a structured system of work-place training. In order to assure the quality of training, the traineeship should be built around the following principles:

- ▶ A written agreement between the trainee and the company (private or public), covering all aspects of the traineeship including compensation or remuneration, if any;
- ▶ Easily accessible information on the rights and obligations of the trainee, the employer and the VET institution;
- ▶ Well-defined objectives of the traineeship and high-quality learning content at both learning venues;
- ▶ Guidance from a company personal supervisor or mentor, who should participate in the performance evaluation at the end of the traineeship;
- ▶ A traineeship may not replace regular employment;
- ▶ A restriction on successive traineeships with the same employer;
- ▶ Social protection coverage that is clarified between the trainee and the employer;
- ▶ An acknowledgement that unpaid traineeships may be appropriate in the case of some traineeships, where there is a mutual benefit in the knowledge transfer and learning for both the employer and the trainee;
- ▶ A commitment among employers to increase cooperation with public employment services, VET authorities and other stakeholders to increase the number of high quality traineeships;
- ▶ Ensuring that individual employers' engagement is tailored to their needs.

The involvement of companies is the common thread that is running through any relevant workplace training model. It is therefore vital to identify and establish relevant incentives that can facilitate their participation. Among the tools are financial incentives. It should be considered to offer a tax incentive (or review the existing tax incentives) to companies that take on a trainee. Introducing or revising a tax incentive will be difficult because it will require the involvement and support of other powerful ministries. It is absolutely necessary that stronger financial tools are introduced to steer the VET system. For example, the Cabinet resolution on "Approving the Provision of Jobs for Passing Students, Students of Vocational Schools of Apprenticeship and Practical Training" in article 16 includes a tax incentive to companies that take on a trainee. This means that tax incentives with regard to VET are not new; they could be revised to make them more attractive and comprehensive.

Own findings and recommendations based on interviews with stakeholders and observations in the Ukraine, January 2013–April 2014.

The law on professional development of employees seems to give employers the possibility of taking on apprentices that can be fully trained by the company through a combination of school and company based training. We are not aware of any evaluation of the existing apprenticeship model, which is why it is difficult to review how the model is working. However, it seems fair to say that the model and the present situation within VET are far from ripe for mainstreaming apprenticeships. It is especially the social partnership model that needs to mature significantly before a traditional apprenticeship model can be developed. In that regard, the experience from the other east European countries seems to be confirmed. It is therefore likely too difficult to further develop the existing apprenticeship model.

The Ukrainian-Danish-German co-operation project aimed at making a contribution towards reforming the vocational education and training system and, in particular, towards supporting the Ukrainian Ministry of Education and Science in the development and implementation of national legislation and a qualification framework as well as in the development of modern occupational standards. The following project results were achieved in spite of the difficult political situation in 2014/2015:

- ▶ A new law defines new responsibilities for the various stakeholders in vocational education and training. For the first time, it introduces devolution in decision-making and stipulates responsibilities regarding all issues pertaining to vocational education and training. The law, moreover, includes provisions regarding the co-operation of all relevant stakeholders (government authorities, company representatives, union representatives and vocational colleges) and introduces a new autonomy for vocational schools with the possibility of generating financial resources that they can spend at their own discretion.

- ▶ In order to define the outlines of the Ukrainian qualification framework, a methodology for the future allocation of existing and new qualifications was developed.
- ▶ Lastly, five vocational education and training standards were developed in the context of this project, structured into modules and focused on learning outcomes. The modernisation of more than 300 occupational standards is pending.

The examples and experiences from the German and Danish vocational education and training systems have helped to create awareness amongst the vocational education and training stakeholders in Ukraine, who now realise that vocational education and training relies on the co-operative effort of all stakeholders (government authorities, company representatives, union representatives and vocational colleges).

The results achieved so far can be expected to influence Ukraine's vocational education and training in the medium term. Building on the experience gained so far, the Ministry of Education and Science of Ukraine set up a pilot project for the introduction of dual vocational training, which was launched in three regions (Zaporozhye, Lviv and Kiev) and three occupational fields in September 2015. The work is carried out in close cooperation with the joint committee of the Ukraine employers' organisations, which founded its own vocational education and training institute during the twinning period and showed itself willing to play a substantial part in the shaping of vocational education and training. There is still a lot of work to do.

6 Final Remarks

As can be seen from the brief review of the experience with apprenticeships in the Central and Eastern European countries, it is clear that it has been and continues to be a difficult process. The classical version of apprenticeships, known from countries like Austria, Denmark, Germany and Switzerland, has not taken hold in either Central and Eastern Europe or in other (South) European countries. The established apprenticeship programmes we know are a lighter version somewhere in between traineeships and apprenticeships. This should, however, not be taken as evidence that apprenticeships are not relevant, but rather that a well-functioning apprenticeship system can only mature over years of commitment from all the partners involved.

One of the overriding factors is the maturity of the social partnership and social dialogue, including the commitment by the partners to act on behalf of the system and of long-term interest rather than on their own narrow and short-term interests. In this regard, mutual trust might well be what has to be developed and constantly nurtured. The transition process has not yet reached a stage where employers – as a group – rally behind a shared strategy or position on VET in general and on apprenticeships in particular. On the other hand, the government needs to prove that they are ready to decentralise decision making and at the same time involve employers in key decision-making processes, including the allocation of government resources.

Establishing open and transparent procedures that are based on equality will frame the social dialogue and facilitate trust building. When the social partners' involvement becomes predictable through such procedures, the decision-making process becomes inclusive and the social partners' willingness to deliver on collectively made decisions can be better justified. We assume that there is still a long way to go.

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Abstract

In view of the high youth unemployment rates in many states of the European Union it is assumed that “apprenticeship” is a key to providing young people with direct access to the labour market. Furthermore, apprenticeship is viewed as a sustainable model for an education system which takes the needs of the labour market into consideration and uses them for comprehensive competence development based on an occupational standard. This is profitable for the enterprises: Graduates of apprenticeships are broadly qualified and “vocationally proficient” when they take up their jobs. There are no break-in costs and no need for “training on the job” by induction at recruitment time. This applies to Germany to the same extent as to Denmark. In many cases the German and Danish VET systems are presented as prototypes of dual apprenticeship systems which are worth copying. This paper addresses policy makers, researchers and practitioners by providing insights in different dual apprenticeship systems and by highlighting alternatives as far as the main features of dual apprenticeship systems are concerned.

The paper is aimed to give a general overview of the basic aspects of an apprenticeship system and describes some trends as to the establishment and development of apprenticeship systems. The paper provides a number of examples from EU countries but also makes relevant detours to other countries to illustrate the wide range of apprenticeship systems. Focus is placed on countries where apprenticeship constitutes an important part of the formal VET system.

Betriebsnahe Ausbildungsmodelle haben seit der Wirtschaftskrise in Europa Konjunktur. Angesichts der hohen Zahlen von Jugendarbeitslosigkeit in vielen Ländern der Europäischen Union wird unterstellt, dass „apprenticeship“ ein Schlüssel dafür ist, den Jugendlichen einen direkten Zugang zum Arbeitsmarkt zu erschließen. In betriebsnahen und dualen Ausbildungsmodellen werden tragfähige Modelle gesehen, wie die Bedarfe des Arbeitsmarktes im Bildungssystem Berücksichtigung finden und in eine umfassende Kompetenzentwicklung auf der Basis eines beruflichen Standards münden. Für die Unternehmen ist dies lukrativ: Absolventinnen und Absolventen sind breit qualifiziert und „beruflich handlungsfähig“, wenn sie ihre Beschäftigung aufnehmen. Einarbeitungskosten und ein Angebot an „Training on the job“ entfallen weitgehend.

Vorliegendes Diskussionspapier gibt einen kleinen Überblick über die grundlegenden Prinzipien von betrieblichen Ausbildungsmodellen bis hin zu dualen Systemen und illustriert diese anhand von Beispielen aus europäischen Ländern. Es reflektiert darüber hinaus die Vielfalt beruflicher Ausbildungssysteme außereuropäischer Länder und lädt zur weiteren Diskussion ein.



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