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External factors influencing VET
Understanding the National Policy Dimension:
Country Case Studies

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The Netherlands

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I. Introduction

At the European level, there is an increasing interest in skills, skills development, vocational education and training (VET), and work-based learning (including apprenticeships).¹ In the Netherlands, there has been a longstanding policy interest in developing the VET system. The VET system adopted, at an early stage (in the 1990s), a competence based approach whereby both the school-based and work-based learning pathways can lead to the award of the same qualification. The competence based approach, from its inception, had at its core a threefold focus on: (i) meeting the needs of the labour market, (ii) citizenship; and (iii) providing the basis for further learning.

In this report, the evolution of the Dutch VET system over recent decades is examined. It addresses the way in which the VET system has adapted to external factors including technological change and macro-economic developments. It is apparent that the Dutch economy has experienced an increasing demand for people with high level skills. Inevitably this has placed pressures on the VET system. On the one hand it needs to satisfy the demand for higher level skills, and on the other it needs to be inclusive and ensure that it delivers labour market relevant skills to people of all abilities.

The report looks at the meaning of VET and the national VET system (chapter 2); the historical context (Chapter 3); changes in VET enrolment in VET (Chapter 4), and the interplay between external and internal factors that shape the VET system (Chapter 5). In Chapter 6 conclusions are drawn.

2. What is meant by VET and the national VET system?

VET at different levels: focus on secondary VET

Vocational education (*beroepsonderwijs*) is divided into three types of schools:

- Pre- vocational Secondary Education (Dutch abbreviation: VMBO – *Voorbereidend Middelbaar Beroepsonderwijs*);
- Secondary Vocational Education (Dutch abbreviation: MBO - *Middelbaar beroepsonderwijs*); and
- Higher Vocational Education (Dutch abbreviation: HBO – *hoger beroepsonderwijs*).

When speaking about vocational education one refers, in most cases, to the MBO. Pre-vocational secondary education (VMBO) is covered by the Secondary Education Act (*Wet op het voortgezet onderwijs*).² Secondary Vocational Education is covered by the Vocational Education Act (*Wet educatie en beroepsonderwijs*, WEB).³ The WEB also covers adult education (*educatie*). Higher Vocational Education, HBO, is covered by the Higher Education and Science law (*Wet op het hoger onderwijs en wetenschappelijk onderzoek*).⁴

¹ See most notably the Riga Conclusions: European Commission / Latvian Presidency (2015), Riga Conclusions 2015.

² Wet op het voortgezet onderwijs: <http://wetten.overheid.nl/BWBR0002399/2017-02-24>

³ Wet educatie en beroepsonderwijs: <http://wetten.overheid.nl/BWBR0007625/2017-01-01#Hoofdstuk1>

⁴ Wet op het hoger onderwijs en wetenschappelijk onderzoek: <http://wetten.overheid.nl/BWBR0005682/2017-06-01>

The above refers to the IVET system. CVET is mainly regulated by social partners who promote CVET by providing on-the-job and up-skilling for workers through the sectoral Labour Market and Training Funds. There is no institutional framework as such for CVET; essentially it is left to the social partners, individual employers, and employees to arrange its provision. The provision of CVET is market driven with a great many suppliers.⁵

In this discussion on the meaning of VET, the focus is on Secondary Vocational Education (MBO). The purpose of secondary vocational education is described as follows in the WEB (article 1.2.1):

Vocational education is focused on the theoretical and practical preparation for the practice of professions, for which a vocational qualification is necessary. VET stimulates the development of general competences, self-development and contributes to the societal participation of the student.

Given this objective, qualifications in secondary VET have a threefold purpose:⁶

1. to prepare students for the labour market for a specific occupation or occupational field;
2. to provide students with the basis to engage in further education;
3. to prepare students to fully participate into society.

Hence, in addition to occupational qualification requirements general competences are also mandatory such as Dutch, mathematics, English (only for MBO level 4), and citizenship.

VET, hence, contributes to the further, general, and personal development of students and contributes to societal functioning. This is an essential characteristic of the Dutch VET system. It is also something which differentiates government-regulated VET programmes from that which is not government-regulated, such as branch/sectoral training, and specific training programmes delivered by private VET providers. For these latter programmes - as there is no government funding involved and therefore no oversight by government through the Inspectorate - it is not necessary to include citizenship and basic competences for lifelong learning. The government-regulated VET qualifications are considered 'start' ones: they should provide the learner a good start in the labour market and the basis to participate in society.

VET as school-based and work-based pathways

Secondary vocational education (MBO) takes up to four years depending on the level of training. The MBO contains four different levels (1 to 4) and students can choose two different pathways. It is often the case that one speaks about one of the four levels or one of the two specific pathways rather than the MBO.

The two pathways in VET are:

1. school based training (*Beroepsopleidende Leerweg, BOL*) where students typically spend four days a week at a VET school and one day at an employer on a work placement; and
2. work based training (*Beroepsbegeleidende Leerweg, BBL*) where students typically spend four days a week on work placement and one day at VET school. They have (usually) the

⁵ Panteia (2015), CVET in the Netherlands "Cooperation" Project Czech Republic – Netherlands: <http://www.panteia.nl/Over-Panteia/projecten-en-publicaties/Overzicht-publicaties/765650145%20CVET-in-the-Netherlands> [accessed 18-07-2016]. Private providers and employers play an important role in the Dutch adult education landscape and provide almost 85% of the learning of adults (ECBO (2011) Een leven lang leren in 2010, p. 72).

⁶ See for a more in-depth discussion on the threefold qualification purpose of VET: http://www.canonberoepsonderwijs.nl/2_1258_De_drievoudige_kwalificatie.aspx

status of an apprentice, in that they have an employment contract with their employer and receive a minimum wage.

Both pathways lead to the same qualification. The content of the programmes, in terms of what is acquired, is determined at national level within the national qualifications system.⁷ VET education that is either predominantly school-based or company-based includes both theoretical and practical studies. Theoretical studies usually take place in school and practical training in the school workshop and / or in the workplace. VET schools are the key providers and they cooperate with companies to facilitate placement of students.

Although VET providers in the Netherlands work within a broad legal framework and a national qualification structure, they have freedom in shaping curricula and organising provision. The cooperation organisation for vocational education, training and the labour market (*Samenwerkingsorganisatie Beroepsonderwijs Bedrijfsleven, SBB*)⁸ has a key role in the institutional VET framework. The SBB optimises links between VET and the labour market to ensure that the VET system produces well-qualified, competent professionals. It is responsible for maintaining the qualifications system for secondary VET, for accrediting and coaching companies offering work placements, and collecting suitable labour market information.

In addition to the role played by VET providers and the SBB, the VET system is characterised by a high level of involvement from employers. This concerns their key involvement in the development of the occupational profiles and Qualification Files on which curricula are based, and the provision of in-company training within the school-based and work-based pathway.

Perception of VET

The Netherlands has been identified in international studies as having, alongside some other continental European countries, a 'world-class' VET system.⁹ In addition, VET leads to good employment outcomes as is evidenced in the results from school-leaver surveys. The strengths of the Dutch VET system are re-emphasised by the OECD.¹⁰ Despite the general prestige of the Dutch VET system, and the good labour market outcomes it provides, VET does not have a good image in the Netherlands.¹¹ This is mainly due to challenges related to level I. As expressed by the OECD:

“In spite of the relatively small number of students participating in the lowest level of upper secondary VET (mbo I), it faces considerable challenges. Though, according to the law, this level is not intended to lead to a labour market qualification, inevitably many of those pursuing this programme try to enter the labour market directly or drop out. MBO I concentrates on young people with disadvantaged backgrounds and yields comparatively poor labour market outcomes. Such a concentration of educational challenges may make it

⁷ EQAVET (2016). Report of the Netherlands Spring 2016

⁸ SBB is the Cooperation Organisation for Vocational Education, Training and the Labour Market. It emerged from the 17 Knowledge centres and was established 1 August 2015. SBB is responsible for accrediting and coaching work placement companies, maintaining the qualification framework for secondary vocational education and looking after the labour market, professional practical training and suitability information. <https://www.s-bb.nl/en/about-sbb>

⁹ European Commission (2012). Rethinking Education: Investing in Skills for Better Socio-economic Outcomes. Communication from the Commission, <http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=CELEX:52012DC0669>

¹⁰ Fazekas, M. and Litjens, I. (2014). A Skills beyond School Review of the Netherlands, OECD Reviews of Vocational Education and Training, OECD Publishing. <http://dx.doi.org/10.1787/9789264221840-en>

¹¹ See for instance the interview with Jan van Zijl, Chairman of MBO Raad: 'MBO2025' en de strijd tegen het imagoprobleem - 25 juni '15: <https://www.nationaleonderwijsgids.nl/interviews/nieuws/28259-jan-van-zijl-mbo-raad-over-mbo2025-en-de-strijd-tegen-het-imagoprobleem.html>

harder to tackle those challenges. At the same time, the diversity of the student body implies a diversity of learning needs.”¹²

These challenges emerge in the media and have an impact the public perception of VET in general. In the light of this, the MBO Raad (Dutch VET Association) started a campaign and developed the website ‘[dit is MBO](#)’ [this is VET] in 2011 to promote VET. The campaign focuses on vocational students, VMBO pupils, teachers, parents, politicians, business, and society. The website and social media channels of ‘dit is MBO’ report on the opportunities available to young people and portrays students who are proud and passionate.¹³

Even though not firmly grounded in evidence on the returns to study, the perception is that the general (academic) track at upper secondary level (HAVO), following lower secondary education (VMBO), is valued higher than enrolling in the MBO at levels 3 or 4, as it is seen to be more ambitious to pursue a higher education degree. The HAVO is seen as facilitating entry to tertiary education, but it should be noted that this is also possible, upon completion of the MBO level 4 qualification.

The VET system might seem complex. It has a threefold purpose and there are two pathways through it. In particular it must ensure that provision is attuned to the needs of the labour market, and, importantly, also serve the needs of relatively low-performing students (so that they obtain a ‘start qualification’). This latter point might have an impact the overall general prestige in which the VET system is held. In order to understand better the conception of VET today, consideration needs to be given to the historical development of the system in the last 30 years (see chapter 3).

3. Historical context – the direction of travel

Fragmented landscape

Before the 1990s, secondary VET (*middelbaar beroepsonderwijs*) did not exist as such. There were many sector specific educational programmes and sector-specific schools. These schools served the demand for qualified personnel in a variety of sectors. The sectors organised the training albeit with funding from the government. Furthermore, the VET landscape reflected the pillars (*verzuiling*) extant Dutch society; where each ‘pillar’ (based on religious orientation) had its own newspaper, church, political party, and education system.

In the 1980s this fragmented system of small schools faced increasing difficulties in complying with increasing regulation (and control) by the government, and in keeping pace with the changing demand of skills and competences emerging from the labour market. In the 1980s and 1990s, under pressure of government regulation and funding systems, the small schools start to merge into larger regional VET colleges. The higher level education programmes of the small schools were merged into the higher VET schools which became universities of applied sciences. At the time (beginning of the 1990s), there was still a clear distinction between secondary VET (*middelbaar beroepsonderwijs*) - which provided the school-based pathway and was fully funded by the government - and the apprenticeship pathway (*leerleerwezen*) which provided work-based training under the responsibility of companies and only partially funded by government. At the time, the apprenticeship pathway was considered to have both advantages and disadvantages: (a) the disadvantage being that during

¹² Fazekas, M. and Litjens, I. (2014). A Skills beyond School Review of the Netherlands, OECD Reviews of Vocational Education and Training, OECD Publishing. <http://dx.doi.org/10.1787/9789264221840-en>, p. 33.

¹³ Mbo Raad (2016). Image mbo. See: <https://www.mboraad.nl/het-mbo/imago-mbo>

economic downturns there was a lack of supply of workplaces; and (b) the advantage being the close link to the world of work.¹⁴

Introduction of the Vocational Education Act (Wet educatie en beroepsonderwijs, WEB) in 1996

A key date in the development of the the Dutch VET system was the introduction of the Vocational Education Act (Wet educatie en beroepsonderwijs: WEB) in 1996.¹⁵ Since this Act, publicly funded secondary vocational education training (*Middelbaar beroepsonderwijs, MBO*) is mainly delivered by the Regional Training Centres (ROC's). Under the 1996 WEB Act, hundreds of vocational training centres were merged to form the present 42 ROCs plus 12 Agricultural Education and Training Centres (AOCs), and 15 smaller, specialised VET colleges. The introduction of the WEB had a number of consequences.

1. It introduced one national qualification structure for all vocational education courses. This was intended to increase labour market support for vocational education and the willingness of businesses to invest in promoting vocational education.
2. The Act provided VET institutions a high level of autonomy in organising VET programmes as long as the curricula led to labour market relevant competences.
3. The arrival of two pathways within the same system, namely school based training (*Beroepsopleidende Leerweg, BOL*) and work-based training (*Beroepsbegeleidende Leerweg, BBL*) previously known as the Dutch apprenticeship system (*leerlingwezen*).
4. The Act introduced the qualification dossiers. At its core the WEB sought to bring together vocational education courses within a coherent qualifications structure (with clearly delineated levels of education and learning pathways). On a sector-by-sector basis employers would set on what students should know to qualify at a certain level of qualification. Business and vocational education would be closely involved through the KBB (now SBB) in specifying the structure and content of vocational training.

The increased autonomy of the Regional VET centres and their increasing size has led to some scandals and even near bankruptcy such that the Ministry of Education, Culture and Science had to provide additional funding (e.g. as in the case of ROC van Leiden). There have been calls for the VET system to return to having smaller institutions as was the case before the introduction of the WEB.

Competence-based VET

With the introduction of the WEB in 1996, the VET sector made a shift from being a supply-driven to a demand-driven one. This resulted in a shift from learning a subject, to developing a competence related to a profession. In 1999 the *Adviescommissie Onderwijs en Arbeidsmarkt, ACOA* (Advisory Committee on Education and the Labour market) recommended strengthening the existing structure of VET, based on learning outcomes, by strongly focusing on "core competencies". This marked the start of competence based education in the Netherlands. In 2002 a competence based qualification structure was introduced, and from 2004 VET schools began experimenting with competence-based education. This meant that the training was no longer based on detailed goals but were formulated on the basis of competencies and work processes. The qualification structure covers all courses within the MBO. Since then a competence- i.e. learning outcome-based approach – has been under

¹⁴ See for instance: NRC (1994): Hendrik Spiering 22 januari 1994: Leerlingwezen en MBO blijven twee werelden.

¹⁵ Wet educatie en beroepsonderwijs: <http://wetten.overheid.nl/BWBR0007625/2017-01-01#Hoofdstuk1>

continued development.¹⁶ The Qualification Files are one important component in this development; not focussing on 'subjects' but on core tasks and work processes and the underlying competences needed to complete these.

Renewal of the qualification structure: towards more modular provision

The most recent changes took place in 2015 when VET schools needed to start working with a new qualification structures. The basis for this change was the Action Plan: Focus on Craftsmanship 2011-2015 (*Actieplan: Focus op vakmanschap 2011-2015*)¹⁷. This action plan suggested that there should be fewer qualifications, there should be more harmonised language in the design of qualifications, and they should respond better to the needs of the labour market.

Changes to the Vocational Education Act (WEB) came into effect in 2016. Since then, all VET schools work with the revised qualification files. With the revision, qualifications are more structured with respect to their basic configuration, profile modules, and elective modules.¹⁸ These optional parts (elective modules) allow students to broaden or deepen skills to strengthen their sectoral labour market positions within a region, and / or enables students to move to the higher vocational education level.¹⁹ Within the optional parts there is a clear link with 21st century skills such as innovative thinking, learning a language,²⁰ and entrepreneurship. In general, IVET has a strong regional character but on the other hand, the learning outcomes described in the Qualification Files are at a national level. The introduction and extensive use of the 'elective parts' enable a more regional, or specialised approach to better link VET to changing labour market needs. The Ministry of Education, Culture and Science, VET providers, and companies are enthusiastic about the elective modules because it provides a degree of flexibility within the school curricula/programmes and it ensures that VET responds quickly to the changing local and regional needs of employers.

From 2017 onwards, for VET schools it will be possible to respond to labour market developments by offering crossover qualifications. To strengthen the cooperation between regional education programmes and the needs of the labour market schools can offer crossover qualifications where existing qualifications from two or more different are combined. The pilot started in August 2017 and run until July 2025.

Reduced employer-ownership but sufficient responsive

From a historical perspective, it is noticeable that the role of companies is being reduced over time. With the introduction of the WEB in 1996 the role of employers diminished somewhat. Within the Dutch apprenticeship system, employers were responsible for providing the apprenticeship pathway. But with the introduction of the WED this responsibility was shifted to the Regional VET colleges which were charged with organising this form of training together with companies. In addition, in 2015 as part of budget cut (decided at the height of the economic recession in 2012, Government Rutte II), the 17 sectoral knowledge centres, which had the formal role of maintaining the Qualification Files and provide work placements to students, were integrated into the SBB (a

¹⁶ See for instance: SER (2004), Opleiden is net-werken: Advies over de koers van het middelbaar beroepsonderwijs en de volwasseneneducatie: <https://www.ser.nl/nl/publicaties/adviezen/2000-2009/2004/b23221.aspx>

¹⁷ Ministerie van Onderwijs, Cultuur en Wetenschap (2011), Actieplan: Focus op vakmanschap 2011-2015.

¹⁸ Companies and educational institutions use the qualification files for the development of programmes and exams.

¹⁹ More information about the optional parts: <https://www.s-bb.nl/onderwijs/kwalificeren-en-examineren/keuzedelen>

²⁰ This means after Dutch and English which are compulsory

tripartite organisation). Although this institution is partially employer-led and has sectoral expertise, this development can be seen as one where the involvement of employers in the VET system of employers/companies has been further diminished.

The recent revision of the Qualification Files (all Qualification Files were renewed by August 2016) allowed the introduction of ‘elective parts’ and experimentation with crossover qualifications. This was introduced to make VET more flexible in meeting the changing demands of the labour market and to allow a more individualised approach in VET. As such it can be seen that the changing labour market impacted the design and shape of qualifications.

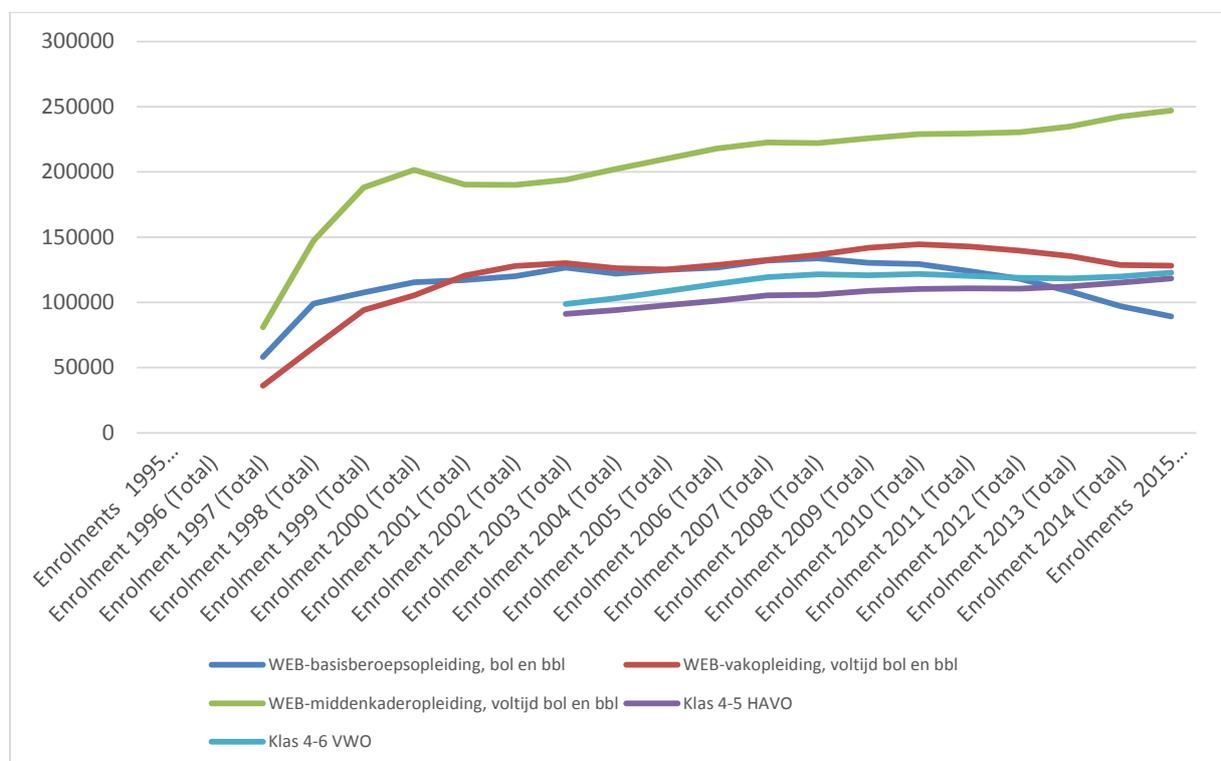
Despite the reduced ownership of employers, VET provision continues to be organised in close collaboration with the labour market. There are numerous feedback-loops between VET and employers, and the system tries to make use of the knowledge and understanding generated by these feedback-loops. These feedback-loops relate to the development/renewal of the Qualification File, but even more to the translation of the Qualification File into the VET curriculum. Via the feedback mechanisms, VET providers and employers take decisions concerning the specific skills needed in the regional labour market. They also allow employers to contribute to identifying the knowledge to be acquired about fast-changing production techniques and work practices.

4. Changes in VET enrolment

Secondary VET in decline

The following figure presents the enrolment of students in the secondary VET qualification programmes at level 2, 3 and 4, and the secondary education general track (*Hoger algemeen voortgezet onderwijs*, HAVO; *Vorbereidend wetenschappelijk onderwijs*, VWO).

Figure 1: Enrolment of students in secondary VET and secondary general education

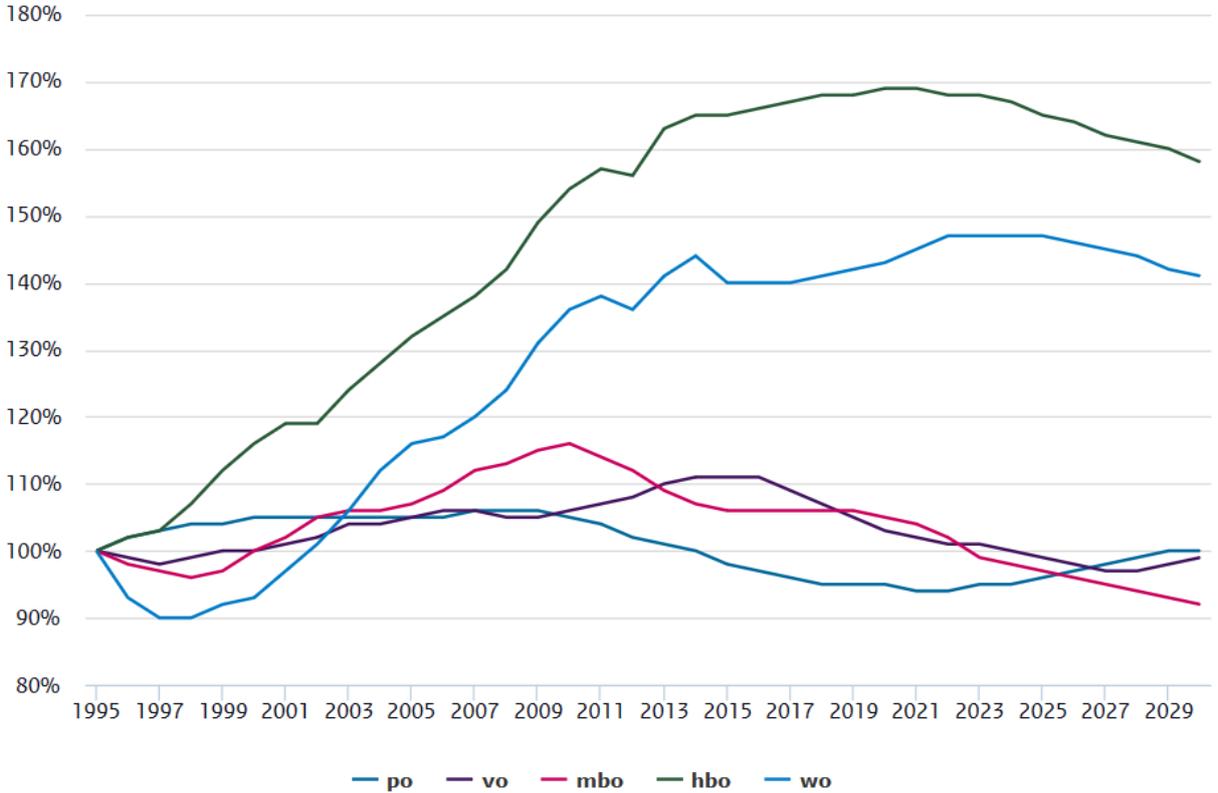


Source: various databases (CBS, DUO), compiled by author.

Data are available for VET qualifications starts from 1997 (following the introduction of the WEB in 1996 that established qualification levels.²¹ In general, in 2015, more Dutch students are enrolled in an upper secondary VET programme (MBO) than in the general pathway (HAVO / VWO).²² What can be further observed is that enrolment at level 2 in VET has been decreasing over the last decade. This trend is also noticeable in specific sectors where it becomes apparent that employers have little need for workers qualified at level 2. In the renewal process of the Qualification Files, the level 2 qualifications in a number of cases were upgraded to level 3 ones. Although understandable from the perspective of the VET system being responsive to the labour market needs, it is not necessarily wholly consistent with the second function of the VET system – i.e. to operate as a safety net for all learners and provide low-performers to obtain a start qualification with which they can enter the labour market.

Although VET enrolment is still higher than enrolment in secondary general education, over recent decades the data clearly show that the interest in higher education is increasing. Many students who complete a secondary VET programme (especially in the school-based pathway) continue their studies in to higher education. The following figure provides an overview of the development of indexed student enrolment in all government-regulated education sectors over the years 1995- 2029 (i.e. including a forecast element). It is clear that secondary VET reached its peak in 2009 and that in the coming decades the numbers are expected to decrease. The higher education sector will still experience some years of growth (up to 2022) and then also, due to demographic change, will experience a reduction in the number of participants.

Figure 2: Development of number of participants: index 1995: 100% per sector



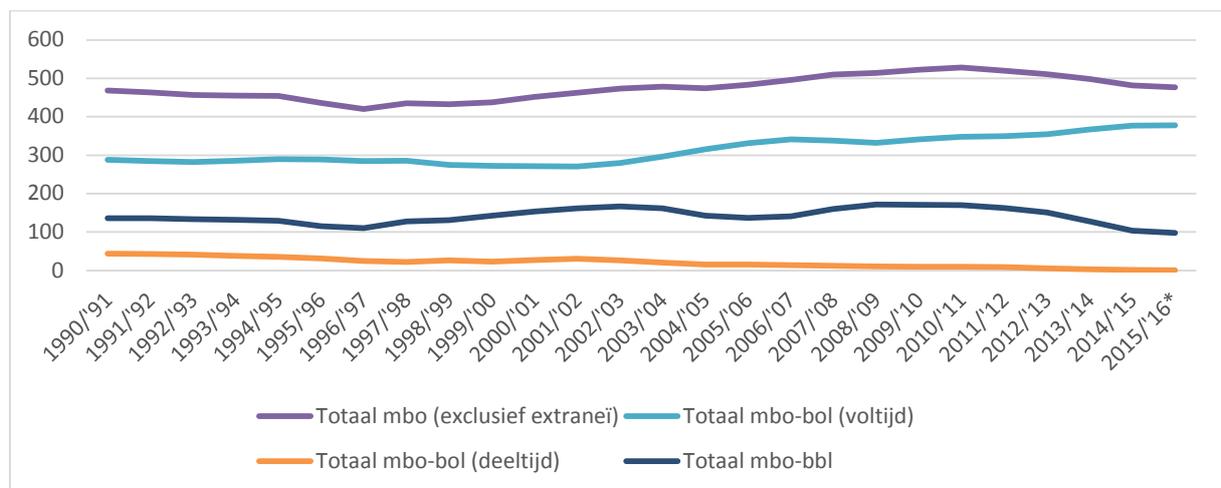
²¹ Wet educatie en beroepsonderwijs: <http://wetten.overheid.nl/BWBR0007625/2017-01-01#Hoofdstuk1>
²² See: DUO: I Cijfer VO en onderwijsmatrices: <https://www.onderwijsincijfers.nl/kengetallen/voortgezet-onderwijs/deelnemersvo/leerlingen-aantallen> ; <https://www.onderwijsincijfers.nl/kengetallen/mbo/deelnemers-mbo/aantal-deelnemers-mbo>

Source: OCW (2016), Referentieramingen 2016 (po: primary education; vo: secondary education; mbo: secondary VET; hbo: universities of applied sciences; wo: universities)²³

Absorbing capacity of the VET system

There were in 2015/2016 476, 000 students enrolled in secondary VET. 378,000 were enrolled in the school-based pathway; 98,000 in the work-based pathway. Student enrolment in both pathways has fluctuated over the years due to various economic crises and concomitant periods of relatively high unemployment. The following figure provides an overview of the development of the school-based and work-based pathway (the school based pathway does have a small part-time variant).

Figure 3: Development school-based (BOL) and work-based (BBL) secondary VET 1990-2016



Source: CBS: Leerlingen, deelnemers en studenten; onderwijssoort, vanaf 1900

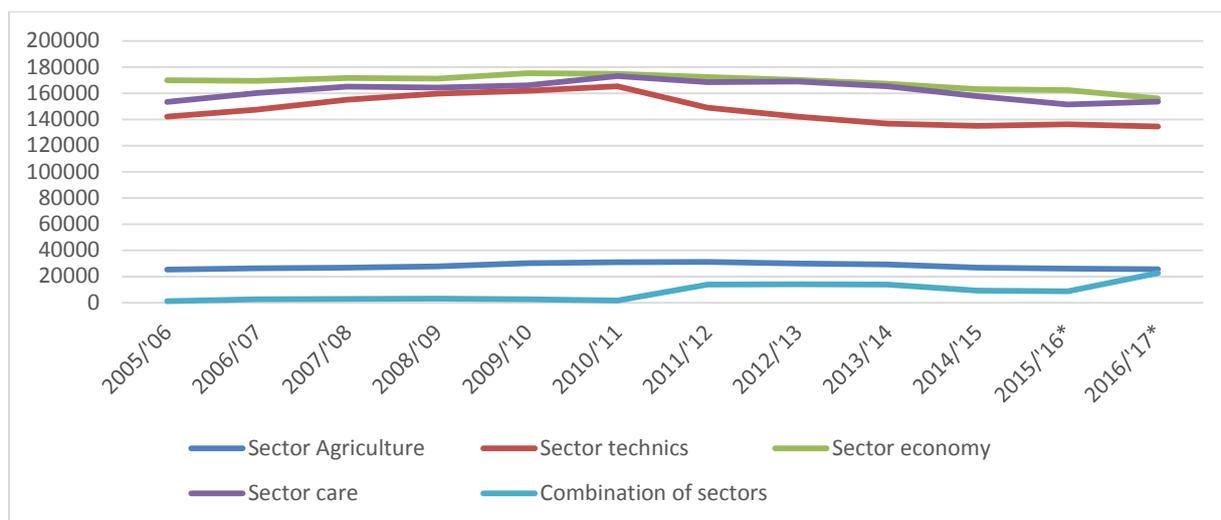
From the figure above it becomes clear that when school-based enrolment is decreasing, work-based enrolment is increasing. The introduction of the WEB (in 1996) seems to have had a positive impact on enrolment in the work-based pathway. It is interesting to see how the enrolment figures relate to economic crises. In general, in times of crisis, students tend to opt for the school-based pathway. In addition, as work-based pathway student have difficulties finding work places, they shift to the school-based pathway. This development is noticeable around 2003-2006 and 2011-2015. As a longer-term trend is it observable that enrolment in school-based VET is increasing at the expense of work-based VET: work-based VET is becoming less popular in the Netherlands. It remains to be seen whether the enrolment rates in the work-based pathway can recover to pre-crisis levels.

Changes related to background characteristics of students

The sectors in which most students are enrolled (historically) concern economy; care; and technics. As can be seen in the following figure, these sectors say a decrease in student numbers in the recent years. Interestingly, the combination of sectors is gaining interest of students.

²³ See: <https://www.onderwijsincijfers.nl/kengetallen/sectoroverstijgend/deelnemers/ontwikkeling-van-het-aantal-deelnemers>

Figure 4: Participants in Secondary VET by sector



Source: See CBS (2017), MBO; deelnemers, opleidingsrichting in detail en sector, leerweg, niveau.

With regard the background characteristics of students in secondary VET, around 100,000 students are from third countries (Moroccan, Turkey, Surinam etc.), this number fluctuated only a little over the last decade (between 95 thousand and 110 thousand).²⁴ Concerning the age profile of VET students, those who enrolled in the work-based pathway are generally older than those in the school-based one. The average age of a work-based pathway graduate is 32 years old, whereas that of a regular student is 22 years old. Work-based students tend to have already been in work and use the BBL to make the next step in their career.²⁵ The gender balance has not seen major shifts over the years.

5. The interplay between external and the internal factors shaping VET

The above sections have outlined how the VET system, and the policies that have shaped its development, have changed over the recent past. How that system has been able to respond to range of challenges is set out below, concentrating on how it has responded to demographic pressure, to technological developments and macro-economic developments.

Demographic change

The VET system - and the policies supporting the system – is cognisant of the implications for participation levels stemming from demographic developments in the Netherlands. Each year reference-projections (*referentieramingen*) are produced by the Ministry of Education, Culture and Science (*Min. Onderwijs, Cultuur en Wetenschap, OCW*) to estimate the number of participants by sector. One of the key indicators used is demographic change. For the VET system, as already indicated, it is projected that the numbers will decrease to 2029 to around 410 thousand students. This is almost 70,000 students less than the current 480 thousand, and far below the total number in 1995 (see figure 2). This decrease is not only the effect of demographic change; it is also affected by the preference of young people to study in a higher education programme – or one that directly leads to the tertiary level - instead of a VET one.

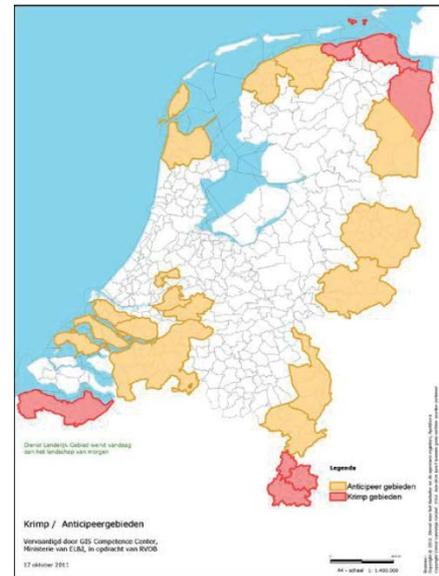
²⁴ See CBS (2017), MBO; deelnemers, opleidingsrichting in detail en sector, leerweg, niveau.

²⁵ See: CBS (2015), Arbeidsparticipatie van mbo-schoolverlaters: <https://www.cbs.nl/nl-nl/achtergrond/2015/5/1/-/media/e68cf09f769341d09fd427e6158c01b2.ashx>

There are a number of factors that need to be considered in relation to demographic change as indicated below.

- **Regional differences:** demographic change is not equal throughout the country. In the Western provinces, and predominantly the (medium-size) cities, the population is growing. In the peripheral areas in the Northern, Eastern, and Southern parts of the country, the population is decreasing. This poses major challenges for the existing service infrastructure including the provision of VET.²⁷ As VET works with national Qualifications, it will (and is already) challenging for the regional VET centres to maintain a broad and varied provision of courses - it simply becomes too costly to provide a programme for a few students.
- **Teacher shortages:** demographic change reduces the number of students in the VET system that, in turn, leads to a reduced need for VET teachers. This development is, however, counterbalanced by the increased competition between certain economic sectors and VET institutions to find qualified teachers with the technical expertise, professional competence, and experience required to teach. In most sectors, but especially those which are in high demand (such as ICT, maritime technology, etc.), the salaries on offer are much higher than the ones VET institutions can afford.²⁸
- **Focus on lifelong learning:** With reduced students in initial VET programmes, some VET institutions have sought to focus more on broadening their offer to adults and provide tailored provision to employees and companies. Many VET institutions have gone down this road but they face severe competition from the private providers who dominate a large part of the lifelong learning market.²⁹ The Government is increasingly aware of the need to establish incentives for people of all ages to continue learning,³⁰ also to mitigate any future labour shortages and potential skills mismatch (given occupational change which has seen the emergence of new jobs and the disappearance of old ones).

Illustration: Shrinking regions (red); growing regions (yellow)²⁶



The challenges related to demographic change have forced the VET system to re-think how it is organised and how it is able to become more flexible when it comes: to offering qualification programmes in area where there is shrinking demand; retaining and recruiting qualified teachers in competition with other economic sectors; and making their offer attractive to adult learners (e.g.

²⁶ See Cörvers, F. (2014), Krimpen zonder krimp: Over demografische transitie en regionale arbeidsmarkten; citation from: Rijk/VNG/IPO (2011), Interbestuurlijke Voortgangsrapportage Bevolkingsdaling, bijlage bij Kamerbrief 2011048273, 30 juni.

²⁷ PBL (2014), Demografische ontwikkelingen 2010-2040 Ruimtelijke effecten en regionale diversiteit

²⁸ The shortage of VET teachers is well recognized. See: Broek, S.D., Buiskool, B.J. (2015), Onderzoek naar mogelijke tekorten onderwijsgevenden in de technische sectoren in het mbo.

²⁹ Private providers and employers play an important role in the Dutch adult education landscape as almost 85% (ECBO (2011) Een leven lang leren in 2010, p. 72) %29 of the adult education/learning is provided by the private sector.

³⁰ See recent reports: SER (2017), Leren en ontwikkelen tijdens de loopbaan een advies over postinitieel leren; Commissie vraagfinanciering mbo (2017), Doorleren werkt: Samen investeren in nieuwe zekerheid; OECD (2017), OECD Skills Strategy Diagnostic Report Executive Summary Netherlands 2017.

flexibility in delivery, modularisation, etc.). The government is currently investigating modalities for demand-driven financing in VET.³¹

Technological change: technological change and the hollowing out of the labour market

Technological developments in the past and in the (near) future have put pressure on lower skilled jobs. In particular, the ICT developments from the 1980s onwards have contributed to the automatization of routine work, such as that associated with administrative / clerical jobs, with a concomitant decrease of employment in certain occupations. In addition (but to a lesser extent) did globalisation contribute to a re-location of work. The employment in cognitive non-routine work is, on the other hand, increasing. These tasks are typically performed by people with a relatively high level of educational attainment.³² Automation and ICT have therefore reduced the demand for many jobs where a level 2 (and 3) qualification would have provided a start qualification in the past.³³ The SCP (*Sociaal en Cultureel Planbureau*) estimates that in the period 1994-2002, on a yearly basis, between 2 to 4 per cent of jobs have disappeared. In the period 2004-2008 this increased to 4 to 6 per cent. In the same period a larger percentage of new jobs have been emerged.³⁴

The need for more highly educated employees is further stimulated by the introduction of the Associate Degree programmes through which Secondary VET (level 4) students can enrol in a two-year programme (as part of a four year bachelor programme) at the higher education level (NLQF/EQF level 5). Its introduction reduced the barrier for VET graduates to continue learning and to increase their competence levels (in more cognitive and non-routine work tasks).

Technological change and the VET systems capacity to adapt to the changes it sets in train, is a key topic in discussions on the VET system and VET policy over the last 30 years. It underlies the introduction of the WEB in 1996 and most of the recent restructuring of the qualification system and the emphasis it places on flexibility through the provision of elective parts (keuzedelen) and crossover qualifications.

Related to technological change is that there is a shortage of technically trained employees in the Netherlands at all levels. National campaigns have been set up to persuade young people (especially girls) to choose a technical orientation in secondary education.³⁵

Although the design of the VET system is predicated on it being responsive to the needs of the labour market, the involvement of the companies in the system and the degree of responsibility they gave for it, has diminished. There are clear challenges related to the relationship between VET institutions and companies, especially in the fast-changing sectors. As education is provided at distance from the companies, it remains difficult to make use of the facilities and new technologies available in companies in the education of future employees. This has the consequence that graduates do not know how to operate the latest technologies and work in the related systems.

Macroeconomic environment (the economic cycle)

Macro-economic developments have not had a severe impact on the development of the VET system. The integration of the school-based and work-based pathway made the system responsive

³¹ See especially: Commissie vraagfinanciering mbo (2017), *Doorleren werkt: Samen investeren in nieuwe zekerheid*

³² See CMMBO (2017), *Advies Arbeidsmarktperspectief mbo niveau 2*, p. 12.

³³ See CMMBO (2017), *Advies Arbeidsmarktperspectief mbo niveau 2*

³⁴ SCP (2012), *Vraag naar arbeid 2011*; cited in Ministerie van Onderwijs, Cultuur en Wetenschap (2014), *Ruim baan voor vakmanschap: een toekomstgericht mbo*, p. 3.

³⁵ See all developments in the framework of the Techniekpact: <http://www.techniekpact.nl/>

to developments in the economic cycle. In times of high demand, more students will enrol in the work-based pathway; in times of low demand, students shift to the school-based pathway.

Economic development has – as already mentioned – has placed a greater emphasis on ensuring that there is a sufficient supply of higher level skills. The VET system has responded to this change through, for instance, the creation of the level 5 Associate Degree. At the same time the demand for higher level skills puts a strain on the VET system as it still has a responsibility to provide skills to those people with a lower level of ability so that they acquire the start qualifications that assist them in making the transition into the labour market. The problem here is that the jobs these people might have gained access to in the past with level 1 or 2 qualifications are not as numerous as they once were, and their numbers are expected to decline further in the future.³⁶

In addition, given the economic developments, graduates need to be able to change professions and sectors and for this reason there is increasing attention paid to delivering more transversal competences. So the balance between providing technical skills directly related to a specific job to providing more transversal, generic skills has shifted. By placing more emphasis on transversal skills there is a greater likelihood that skills will remain valid over the long-term. This idea was initially articulated in the 1997 SER report which asked questions about how the secondary VET system should deal with increasing flexibility and mobility in the labour market.³⁷ It was given prominence in the Action Plan: Focus on Craftsmanship 2011-2015 (*Actieplan: Focus op vakmanschap 2011-2015*)³⁸; and echoed in the 2015 revision of the qualification structure. Forward looking projections also emphasises the need for transversal competences.³⁹

Although VET in the Netherlands is shaped in close collaboration between the VET schools and labour market stakeholders, there are major concerns about whether VET provision is able to align properly with new developments and changing labour market needs. Recent reports stress the importance of strengthening learning at the workplace and in particular the work based training pathway (*beroepsbegeleidende Leerweg, BBL*) as a means to bring education providers and companies closer together.⁴⁰ This emphasis is a sign that the adjustment of VET programmes does not rely so much on elaborate feedback loops, labour market demand surveys, and systems to forecast future demand, but on more direct forms of feedback through interaction between VET teachers and trainers and companies. This was also the outcome of a discussion between the SER and VET directors in January 2017.⁴¹ It is also illustrated in an increased interest in the idea of ‘hybrid-model teachers’, i.e. teachers that work in their professional field and are engaged in delivering education / training (including VET and WBL).⁴²

³⁶ See: CMMBO (2017), Advies Arbeidsmarktperspectief mbo niveau 2.

³⁷ SER (1997), Versterking secundair beroepsonderwijs: Advies Versterking secundair beroepsonderwijs uitgebracht aan de Staatssecretaris van Sociale Zaken en Werkgelegenheid

³⁸ Ministerie van Onderwijs, Cultuur en Wetenschap (2011), Actieplan: Focus op vakmanschap 2011-2015.

³⁹ See for instance: MBO Raad (2015), Het mbo in 2025: Manifest voor de toekomst van het middelbaar beroepsonderwijs

⁴⁰ SER (2016), Deel I Voorstellen ter versterking van de beroepsbegeleidende leerweg; Advies 2016/07: 21 oktober 2016 (commissie Arbeidsmarkt- en onderwijsvraagstukken)

⁴¹ SER (2017), Maatwerk van belang voor toekomstgericht beroepsonderwijs, 12 januari 2017: <http://www.ser.nl/nl/actueel/nieuws/2010-2019/2017/20170112-beroepsonderwijs.aspx>

⁴² See: Dorenbosch, L., Van der Velden, K., Plantinga, E., Bilkes, M. & Sanders, J. (2016). Crux van het Combineren: actieonderzoek naar gecombineerde rollen, beroepen en (loop)banen; see as well Broek, S.D., Buiskool, B.J. (2017), Bouwstenen voor een actieplan tekorten techniekdocenten.

6. Conclusions

If there are red-threads which can be taken from this assessment of the Dutch VET system in a historical perspective it would be the following:

- one the one hand, the VET system has seen an increase in regulation by the government, and the merging of schools and institutions and, on the other hand, an increase in the autonomy of the VET schools to design and implement curricula;
- the ownership, responsibility and close engagement of employers has, throughout the last four decades, decreased. This has been partially replaced by effective feedback mechanisms, but that has not prevented a barrier developing between the world of work and the world of education;
- labour market responsiveness has been a main reform driver throughout the last four decades, but what is understood by responsiveness is undergoing a revision with more emphasis on transversal skills with more focus on employability instead of the skills that are of direct relevance to one particular job or sector;
- demographic, technological and macro-economic development have put pressure on the VET system to: give all students (including those with lower levels of ability) a start qualification; align better with the demand for lifelong learning (e.g. modularisation); and incorporate more technological developments in VET programmes.

These issues remain valid now and are likely to remain so well into the future. They are emphasised in recent reports that discuss how to make VET, lifelong learning, and skills development, in a broad sense, sustainable.

The VET sector is, however, facing major challenges with respect to its attractiveness to young people and its capacity to meet the needs of the labour market. These challenges have to do with the ability of the VET system to secure enough work-based learning places and finding high quality teachers and trainers competent in a range of technical subjects. A system for adjusting VET programmes to meet the needs of the labour market (c.f. the new Qualification Files), seems to in place. But as mentioned in Chapter 5, the main change agents are the professionals working in the VET schools and companies delivering the programme. If there is a lack of learning places in companies and / or a shortage of suitably qualified and experienced teachers, then the level of interaction between schools and companies is likely to (further) diminish. Should this materialise, then the VET sector is likely to increasingly lose touch with labour market and, consequently, become even less attractive to young people.

A risk, which is already a reality, is that the VET system is not able to sufficiently engage with adult learners. In the provision of learning linked to continuous upskilling and reskilling, the formal VET system is not a key player (this is predominantly delivered by private providers).⁴³ With an increasing emphasis on lifelong learning, should the formal VET system fail to fully engage with this agenda, then its relevance to the labour market might be further questioned.

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Norway

Kaja Reegård

I. Introduction

Norway has a strong policy interest in the vocational education and training (VET) system related to achieving several policy objectives related to economic development, productivity, and labour market integration (Skule et al. 2002). First, the VET system is intended to provide the labour market with the skills it needs and thus contribute to economic development. The projections of supply and demand for labour, conducted by Statistics Norway, show a trend of increasing demand for workers with tertiary education and upper secondary vocational education will continue in the period up to 2030. Particularly relevant to VET, the projections show a high growth in demand for skills in construction (Statistics Norway 2014a). Second, the VET system is to provide qualifications for competent skilled workers, and thus provide young people with transparent occupational paths, and access to certain segments of the labour market. Third, another aim is to promote social inclusion. In Norway, unemployment and income inequality remain at comparatively low levels (OECD 2012), while educational policy emphasises universal access and manifestly aims to counteract inequalities associated with social background (Hegna et al. 2012). Nonetheless, Norwegian researchers have demonstrated a significant impact of social class background on life chances, for instance, with regard to educational attainment (e.g., Hansen 2010).

Apprenticeship as a training model receives widespread political support in Norway, but is challenged by external pressures, such as the supply relatively low cost labour resulting from immigration in the wake of globalization, and 'academisation' tendencies in society following the substantial expansion of tertiary education. These external pressures affect the VET system in different ways. First, since the EU-enlargement in 2004 and 2007, Norway has experienced a large increase in labour immigration, particularly from Poland and the Baltic states, leading to changes in the conditions for VET within the building and construction sector. Increasingly international labour markets are believed to affect employers' willingness to invest in apprenticeship training, due to easy access to cheap foreign labour, which presumably affect the degree to which young people perceive the vocational education system as attractive and a suitable platform for career progression (e.g., Røed and Schøne 2015). Second, the development whereby higher education credentials are ascribed higher value in society, implies a potential weakening of the attractiveness of the VET system (Bråthen and Fløtten 2017; Nyen and Tønder 2014). These challenges to which the VET system is expected to respond are addressed below.

Regarding current international concerns relating to labour market segmentation and dualisation - i.e., a 'hollowing out' of the skills structure between work requiring higher levels of education and unskilled labour - this is also reflected in the Norwegian debates (c.f. Doeringer and Piore 1991). Norway perhaps may be better equipped to handle the challenges related to immigration, technological change, and an ageing population due to the systems' embedment of what is recognised as 'the Nordic model'. In a variety of international comparisons, the Nordic countries are found to perform relatively well on indicators relating to global competitiveness, innovation, gender equality, and corruption (Bråthen and Fløtten 2017). Dølvik (2013) presents three interrelated pillars to illustrate the Nordic model; first, macroeconomic governance. The Nordic countries are small open economies with fiscal and monetary policy aimed at combining free trade with growth, full employment and social cohesion. This has required active and stability-oriented fiscal and monetary

policies, and coordinated wage formation which is considered to be vitally important. The second pillar of the triangle model is the public welfare state. Nordic social policy is comprehensive and aimed at broad risk coverage for the whole population. The third pillar is organised working life, partly regulated by law and partly by collective agreements. Moreover, the social partners are important counterparts with government in developing productivity and restructuring measures, and in developing labour market policies. The strength of the social partners and the balance of power between them is vital to assure the legitimacy of political decisions, trust amongst actors, confidence in institutions, and trust between political actors and the population.

2. What is meant by VET and the national VET system

Since the comprehensive school-reform in 1994, when the VET system was integrated in to the general upper secondary education system, VET is typically understood as a youth education, and as an alternative path to the general academic track. In recent years, the proportion of 16 year olds applying for a vocational programme has been around 40 percent (Bråthen and Fløtten 2017). Currently, the vocational tracks follow the 2 + 2 – model with two years at vocational school followed by two years of apprenticeships. Apprentices are generally trained full time in companies, and do not return to school-based learning post-apprenticeship initiation. This means that it is a *combination* of school-based and work-based learning which characterises the Norwegian VET system.

After completing the four-year vocational education, the students achieve a certificate in a particular trade. There are 200 trades, but 30-35 account for the majority. The trade certificate is a qualification whose labour market value differs between labour market sectors, but generally provides access to relevant work. Vocational programmes do not provide general entry qualifications to higher education. All upper secondary vocational qualifications are at EQF 4/ISCED 3-levels. Also, since 1994, the system includes the opportunity to take a supplementary year of academic subject study in order to access higher education, typically undertaken after the two school-based years, or by taking an extra year after graduating with a trade certificate. This arrangement was introduced to signal that VET is an open educational track, rather than a 'blind alley'. Today, this option is particularly popular within the programmes in the private and public service sectors for health and child care. About 45 per cent of the students in the programmes for these sectors switched to general education after their second year (in 2010). The numbers are much lower in technical and industrial production (9 per cent), but are significant in electricity and electronics, building and construction and restaurant and food processing (16-19 per cent) (Olsen et al. 2015).

There are constantly on-going public debates over the status, worth and recognition of vocational education. Generally, one can say that the VET systems suffers from disparity of esteem compared with the academic track, where vocational skills are assigned lower status in a hierarchy of knowledge and value. Despite the pressing need for vocational skills at a societal level according to statistical projections, vocational students frequently appear in the newspapers in negative terms related to: their lack of motivation, dropout, being school-wary, and not 'suited' to academic study. The large majority of 16 year olds in Norway enter upper secondary each year, but only about half of those entering the vocational tracks succeed in completing within five years. There is, however, significant variation in the dropout rate between different vocational tracks. The transition from school-based education to apprenticeship training is a critical point in the Norwegian vocational system, and dropout is intimately connected to the transition from school-based learning to apprenticeship (Nyen and Hagen 2014). Young people do not have a statutory right to an apprenticeship place; about 70 per cent are usually able to secure an apprenticeship. Thus, a lack of

apprenticeship places is one of the reasons why less than two out of 10 students in vocational programmes complete the 'standard' 2 + 2 model (Aspøy and Tønder forthcoming; Bråthen and Fløtten 2017). Research clearly establishes that dropping out of upper secondary education is a phenomenon more closely related to vocational education programmes than to programmes for general studies. Markussen and colleagues (2008) find that in the general academic upper secondary tracks, the dropout rate was about half of this average or lower, but all of the vocational education programmes had a dropout rate above the average of 14.8 per cent.

In order to accommodate some of the aforementioned challenges, different measures, initiatives and pilot projects have been implemented. One example is the project for more frequent transitions between school and work-place during the four-year vocational education, compared with the current 2 + 2 model. This pilot project spans from 2014-2018 (Andresen et al. 2016; Høst et al. 2015). Another example is that of obtaining 'double' or 'hybrid' qualifications, where young people achieve the trade certificate and general study certificate (granting access to higher education) after completing vocational education. The initiative for this kind of programme was a response to employers' preference, especially within the manufacturing and building sectors, to recruit engineers with experience of practical work on the shop floor. It started out, in 1992, as a programme for what today is labelled technical and industrial production manufacturing (TAF). In 1996 a TAF programme within electricity and electronics was introduced, and in 2000 a programme one for building and construction. Since 2007, a TAF course has also been offered within the programmes for healthcare, childhood and youth development, and even within agriculture, fishery and forestry (Olsen et al. 2015).

In order to give a more nuanced picture than portrayed hitherto, it is relevant to point to three topics which differentiate the way VET is understood and applied in Norway. First, generally, the Norwegian VET system, constituted by specific trade logics, is grounded in clearly defined occupational knowledge and skills. There are, however, trades, such as service sector ones, which do not have a fixed occupational point. Rather, these types of trades which are weakly established in the labour market as a social and occupational category compared with trades within industry and crafts, make it difficult to identify the jobs which apprentices are being prepared for. The trades struggle to engage students and employers, while the transition to relevant employment post apprenticeship is weak, and the trade certificate has low labour market currency. Here employers have come to prefer training and recruitment strategies disconnected from the VET system (Reegård 2017). Active employer engagement in the development of vocational education and apprenticeships is considered essential in ensuring that apprenticeships remain an important part of training and recruitment policy in the various companies and industries. Concerns, however, about a lack of employer (and employee) influence have been raised, particularly within the weakly established trades, such as trades directed towards the service sector (Høst et al. 2013). The share of apprentices compared to young employees with other types of qualifications differs significantly between the labour market sectors. In contrast to the building and construction sector, where nearly all young people employed are apprentices (99 per cent), the retail sector has the biggest discrepancy - meaning the lowest share of apprentices (10 per cent) - compared with the overall youth workforce (Nyen et al. 2015).

Second, there are significant geographic variations in the status and support for vocational education depending on where in Norway one is located. Although vocational upper secondary education institutions are geographically distributed to offer equal opportunities in Norway, local patterns of inequality in participation and achievement are evident. These variations are linked to the composition of local labour markets, and vocational education traditions with implications for young

people's orientations towards vocational education (Olsen et al. 2015). For instance, in Oslo which is characterised by labour migration, de-industrialisation and knowledge-intensive labour markets, one in four (of those aged 16-18) chooses VET, whereas it is almost 50 per cent elsewhere in the country. Typical VET regions are the west coast and mid-Norway, which still have a significant amount of employment in industrial production.

Third, it is crucial to emphasise the large share of adults completing a vocational education. Approximately half of all trade exams are completed by adults. As already mentioned, the standard model in vocational programmes is two years of school-based education followed by two years of apprenticeship training. In practice, however, only a minority follows the standard route and acquire a trade certificate within four years. The average age for persons completing a vocational programme in Norway is 28, which is among the highest in the OECD. Adult apprentices can have all training at the workplace, apart from that in general subjects. Besides, adults who can document long and varied practice as unskilled workers within a relevant trade, can also register for the trade examination and acquire the trade certificate, usually after having a shorter theoretical course. This latter practice based route is a commonly used qualification route in the Norwegian labour market, and accounts for about a third of all new trade certificates each year. It enables segments of the population with an otherwise low likelihood for completing upper secondary education to acquire formal qualifications at this level. Apprenticeships and experience-based trade certification provide adults with a second chance to acquire upper secondary vocational qualifications (Bratsberg et al. 2017).

In general, the Norwegian VET system denotes both school-based and work-based learning, which at least in part, leads to relevant jobs and an educational certificate of labour market value. The majority of apprenticeship places are within the private sector. There are, however, recent measures taken in order to strengthen and increase the public sector's willingness to provide apprenticeships, particularly within the trades of office administration, and ICT services, which are among the largest trades relevant to the public sector. Research, however, shows that vocational education for these parts of the public sectors, are characterised by obtaining education in the labour market, rather than an education *for* the labour market. The public agencies do, to a small extent, offer skilled workers a job post-apprenticeship completion but, particularly for the office administration trade, employers prefer employees holding higher education credentials (Høst and Reegård 2015).

3. Historical context – the direction of travel

The VET system in Norway has been a central institution for the training of tradesmen/journeymen for entry into the labour market for a long time. It has been long regarded as a mechanism for the recruitment and qualification of the labour force. Over the years since the 1970s there has been long-term growth in the number of apprentices from about 3 000 in the early 1970s to almost 20,000 in 2016. This means that the percentage of Norwegian youth who receive vocational education through an apprenticeship has increased from around 5 per cent to 30 per cent (Bråthen and Fløtten 2017; Høst 2008a).

The great increase over the years has been rooted in the interest of policy-makers in the vocational training system. This ensured that much greater financial resources were invested in the vocational system. Over a period of 50-60 years, the vocational system went from being practically doomed in the 1960s (Michelsen 1995) to holding a central position in upper secondary education today.

Until the 1990s, the vocational system was largely a recruitment system, particularly to the trades within industry and crafts. During the 1980s Norway witnessed a revitalisation of the system of collective skill formation within the manufacturing sector, a process driven step by step by local and

central actors (Olsen et al. 2015). The vocational system however, was considered complex, fragmented, and largely filled by older youths and adults. Furthermore, it was numerically a modest apprenticeship system. Building up to the comprehensive school reform of 1994 was an overburdened education system and increasing youth unemployment. This was the backdrop to the efforts made to transform the Norwegian apprenticeship system through Reform 94; subsuming vocational education and general academic education in a common law. In parallel, so-called Local Training Agencies (LTA) emerged in the beginning of the 90s, privately owned, and intended to relieve companies from the increased administrative coordination following the integration of vocational training into the general upper secondary education system. The interest among employers in recruiting apprentices from upper secondary school has significantly grown. With this reform came expectations that workplaces would not only offer more apprenticeship places, but also to expand and renew their capacity as places for training. This development was welcomed both by employers, and by the social partners, contributing to raising the general status and educational standards of the vocational system (Olsen et al. 2015).

With the reform in 1994 all young people were given the right to upper secondary education. The core of the restructuring of the vocational education during the 1990s was the forging of tighter links between the apprenticeship system and upper secondary education. The aforementioned 2+2 structure was adapted to the new school system in which 16-19 year olds were given a statutory right to three years of upper secondary education. The vocational tracks were integrated in to the general upper secondary education system. Thus, it follows that the apprenticeship system also became evaluated in line with the education system's requirements for effectiveness and transparency. With this integration, one can say that the vocational system increasingly developed into an educational arrangement for young people - from being a recruitment channel and qualification system for trades - accompanied by stronger public governance and regulation (Nyen and Tønder 2014).

Prior to 1994, sectors and industries had come to develop and formalise a very different set of training and recruitment practices, e.g., vocational education in school combined with enterprise-based practice, higher professional education, and on-the-job training. The reform in the 1990s sought to adapt these different educational traditions and turn them into a comprehensive, nationwide, restructured system of vocational education. The aim was an integrated and uniform further/higher education system capable of including all 16-19 year olds, either preparing them for higher education, or providing them with a skilled worker certificate after completing the apprenticeship (Høst et al. 2008a). This expansion resulted in the birth of a series of new trades directed towards meeting the needs of the service sector, thereby creating a pathway for young people into this segment of the labour market (Michelsen et al. 2014; Olsen et al. 2015).

Traditionally, the essence of VET is training in a specific trade, i.e. a distinct and demarcated set of vocational skills that lay the foundation for working in an occupation. A trade is constituted by established occupational categories, a more or less standardised set of work tasks and responsibilities, cutting across company-specific skills (Nyen and Tønder 2014). One of the central aims of Reform 94 was to extend the apprenticeship system to all labour market sectors, both public and private. In this process, the VET system was expanded to include labour market sectors, which did not have the tradition for apprenticeship training, among them retail and office jobs. These 'new' service sector trades, however, do not seem to lend themselves easily to the apprenticeship model of training (Reegård 2017). In broad historical terms, one can say that the Norwegian VET system made a successful transition from crafts to industrial production with the industrial revolution, but the second transition to the service economy has proven less successful (Reegård 2016).

Post Reform 94, the share of 18 year olds who apply for an apprenticeship place has been relatively stable; between 17 and 19 per cent. This suggests that the apprenticeship system enjoys a stable status among young people, accompanied by increased supply of public expenditure and resources (Høst 2008a).

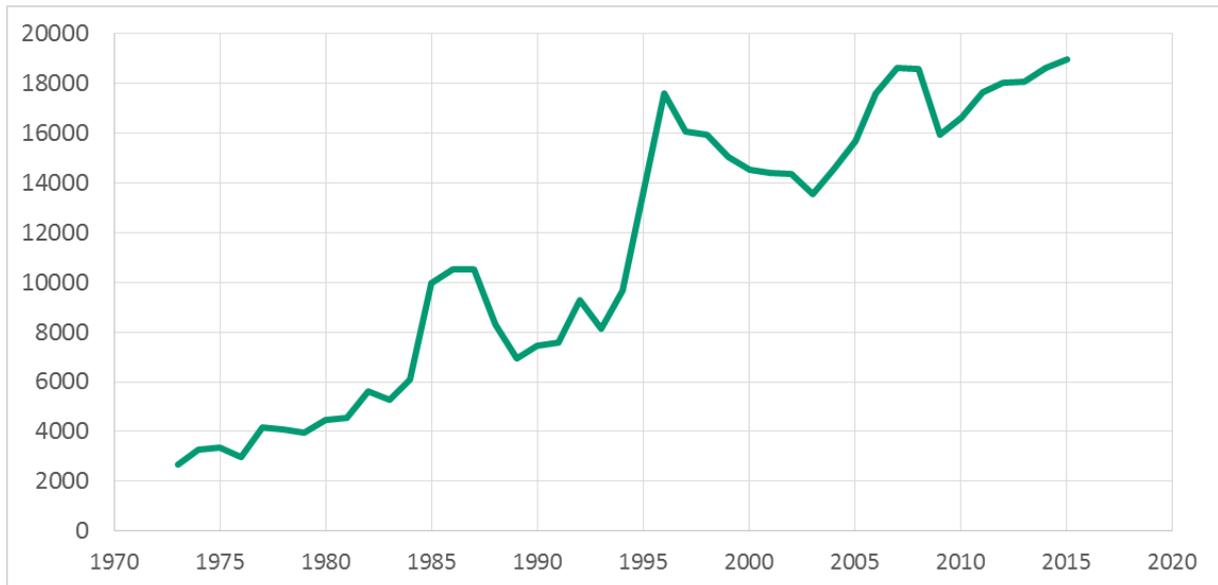
The other relevant school reform affecting the Norwegian vocational education system is the Knowledge Promotion reform of 2006. In the wake of this reform came further restructuring, meaning that the system would offer vocational training in fewer trades. Importantly, the number of second year courses was reduced significantly, with the consequence that many vocational students had broader and less trade-specific vocational education and training during the first two years. Another significant change was the introduction of the school subject called the 'in-depth study project', which was implemented in the two school-based years of vocational education. Critics had warned against the negative consequences of abstract and theoretical courses at the expense of practical training. The distance between the subjects taught in school and the trades and occupations might have negative effects on student motivation as well as on skills development. An important aim of the in-depth study project was to introduce VET students to authentic work methods and tasks within relevant trades and occupations at an early stage of their training, partly in order to counteract the presumed negative effects of broad vocational programmes (Olsen et al. 2015). Currently, several trades are clustered together in eight vocational programmes, branching out to 52 second year courses. The first of the school-based year in a vocational programme has a broad vocational content with students prepared, potentially, for many different trades study within the same programme. The second year involves further specification yet usually still encompasses several trades (Bråthen and Fløtten 2017). Recent research shows that the content and learning provided in the placement periods is rather arbitrary and non-standardised, owing to decentralised school responsibility (Nyen and Tønder 2012).

Historically, the social partners have enjoyed great influence and control over VET. Cooperation between social partners in the tripartite bodies within the VET system in Norway is important. After several decades when the social partners had relatively extensive influence over the vocational education system, the state gave the public administration complete control of this system from the 1990s on. The social partners took on, or were granted, a position of providing advice on policy. Moreover, the number of tripartite Vocational Training Councils was reduced (Grove and Michelsen 2005). The changes have been explained as a turn towards more unified governance of the education sector, giving the government greater flexibility over changes in vocational education (Høst 2008a).

4. Changes in enrolment

As portrayed in the previous section, since the beginning of the 1990s a number of political measures were implemented in order to establish a new basis for the integration of the apprenticeship system within general upper secondary education system. And the range of the apprenticeship system has expanded. In line with Høst et al. (2008b), there are several ways to operationalise changes in the extensiveness of VET, for instance the establishment of new trades, developments within individual trades, and expansion of VET in geographic areas. Moreover, there are different ways to measure enrolment. The following figure is based on new yearly apprenticeship contracts (i.e. a measure of apprenticeship starts) extracted from Høst et.al. (2008b, 20).

Figure I: Development of the number of apprenticeship contracts entered for all trades, 1973-2016



Source: Extracted from Høst et.al. (2008b)

The figure illustrates how the Norwegian apprenticeship system has expanded over 40 years. This is primarily due to the fact that established areas of vocational education have generated more contracts, but the number of apprenticeship contracts has also expanded significantly through the establishment of new trades, particularly in the wake of Reform 94. Thus, the 90s were characterised by new areas and sectors being integrated into the VET system. The most significant expansion took place within health and social services with the formation of the care worker trade, youth and child worker trades, and emergency medical technician trades. Altogether, 61 new trades were established between 1990 and 1996. Since then, few new trades have been formed (Høst et al. 2008b).

The subsequent figure (Høst et al. 2008b, 23) shows the significance of the different trades for the growth depicted in Figure I. Three categories of trades are shown: (i) craft and craft-oriented trades, (ii) industrial and industry-related trades, and (iii) other trades i.e. new trades within sectors previously not included under the law on vocational education.

Figure 2: New apprenticeship contracts per year from 1973-2008, distributed according to craft, industry, and other trades

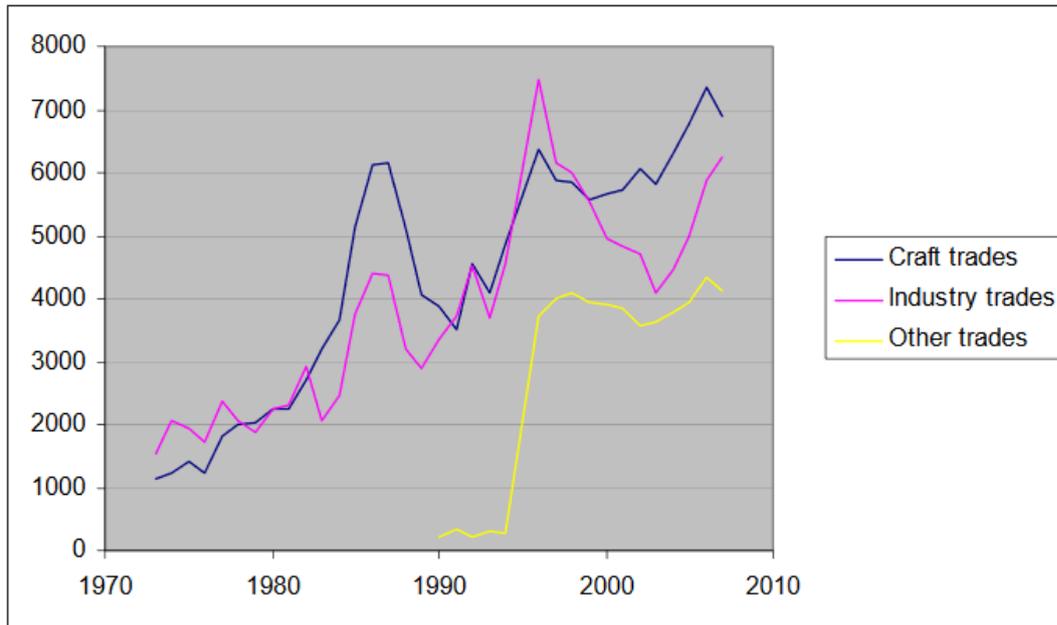


Figure 2.2: New apprenticeship contracts per year from 1973-2008, distributed according to craft, industry, and other trades.

Sources: RFA's annual report, Linda vocational education, The Ministry of Education, Statistics Norway

Figure 2 illustrates that the trades of crafts and industry account for the most significant share. Carpentry, hairstyling and construction have contributed strongly, whereas the smaller, traditional crafts have declined. Within the industry trades, the electrician trade is the largest, while the metal industry and automobile trades are also important (Høst et al. 2008b). The new trades that emerged in the service sector in the wake of Reform 94 increased after their introduction, but have not been able to sufficiently gain foothold, neither in the labour market nor among students.

5. The interplay between external and the internal factors shaping VET

The demographic challenge

As is the case with other OECD countries, Norway's population is ageing. In line with the OECD average, the proportion of the population aged 65 and over is projected to increase from around 30% of the population aged 20-64 in 2011 to around 60% by 2050 (OECD 2014).

It is, however, difficult to accurately project the future. There is thus a high degree of uncertainty in the projected figures on how the population will develop in the future, both with regard to its total size and its composition. The Norwegian population will continue to grow throughout the century, according to the population projections conducted by Statistics Norway. It is estimated that Norway will reach 6 million inhabitants in 2031, and 7 million in 2065. The growth will be particularly high in and around the larger cities. Norway is commonly broadly divided into six geographic regions: East, South, South-West, West, Mid and North. Each region has a regional 'centre'. The population in all six regional centres, i.e. Oslo, Kristiansand, Stavanger, Bergen, Trondheim and Tromsø, will increase markedly.

The aging of the population will continue, and every fifth resident in Norway will be at least 70 years of age in 2060. The increase in the number of adults and elderly will increase sharply over the coming ten year-period. The age group 70 and older constitutes 11 per cent of the population today, but projections estimate that this share will increase to around 19 per cent in 2060. As a consequence, every fifth person in Norway will be 70 years or older in 2060. Moreover, individuals aged 80 and older will make up almost one tenth of the population in 2060, compared with 4 per cent today (Statistics Norway 2014b).

This development indicates that the comprehensive, tax-funded welfare state in Norway might be placed under pressure given the dependency ratio the demographic statistics suggest will emerge. More specifically in relation to the VET system, the changing demographic structure implies the need to strengthen the transitions for youth from school to employment, strengthen (formal and informal) lifelong learning provision, and increase recruitment to health care vocational programmes.

Norway today is considered to hold a strong position, being able to cope better with population ageing than most other countries. The labour force is expected to continue to grow until 2060, since the population projections from Statistics Norway estimate net immigration rates above the OECD averages (OECD 2014).

Immigration and labour migration are external factors relevant to the VET system, and to which the VET system needs to respond. First, annual net migration to Norway has been stable at around 40,000-50,000 individuals for a number of years, which is a substantial rise compared with the situation over previous decades. According to the projections, immigration to Norway is assumed to decline somewhat over the long run, while emigration will increase somewhat – especially over the first few years. As a consequence, net migration will decline in the long run. In this main projection, net migration will stabilise at around 15,000-20,000 individuals a year from 2040 onwards (Statistics Norway 2014b).

An increased flow of immigrants might pose a strain on the Norwegian welfare system, thus policy-makers are keen to integrate immigrants rapidly into the labour market. Recently, measures have been by piloting modularisation within the VET system, in order to speed up the qualification route, which immigrants are to undertake in order to access the labour market. Modularisation entails vocational competence to be divided into smaller components, where immigrants may obtain a qualification after completing each module. Through this, the government aims to create a more flexible adult learning system. It remains to be seen how the current VET system, and employers, response to such modularisation efforts, pans out.

Second, labour migration is believed to have had a impact on the VET system, particularly within labour market sectors such as building and construction. In a high labour-cost country such as Norway, the consequences of opening up international labour markets in the wake of EU-expansion, was to see an influx of labour migrants who were willing to work for lower wages compared with Norwegian workers (Nyen and Tønder 2014).

Friberg and Haakestad (2015) analysed how the recent influx of large numbers of labour migrants represents a supply shock that has shifted the fundamental balance of power and class relations in the Norwegian construction industry, moving from «craft-oriented» to «neo-Taylorist» management principles. Other studies have documented that labour migration had had a negative impact negatively on young people's willingness to enter immigration-exposed trades and occupations (Røed and Schøne 2015). It has also reduced employer demand for skilled labour (Friberg and Haakestad (2015).

Technological change

Technological development is rapid, implying great progress within robotics and artificial intelligence. Evidence indicates that the pace of the technological development will increase further in the years to come. These changes will contribute to change the labour market in a number of different ways. A survey on new technology and its labour market consequences, conducted among a representative sample of companies in Norway, showed that nearly 50 per cent had introduced new technology over the past two years. This led to changes in work tasks and altered the need for competences in these companies. Moreover, with direct implications for VET, it is likely that the supply and demand for continuous skills development will increase further in accordance with rapid technological development. Furthermore, technological change might involve the recruitment of new employees (Holte 2017).

At the same time, one of the strengths with the Norwegian VET system is the relatively close link and cooperation between the educational venues - i.e. (vocational) schools - and the labour market, which is intended to ensure efficient feedback mechanisms and dialogue between the two venues. Thus labour market-driven technological change affects the content of vocational education. At the same time, vocational curricula have a broad vocational competence base, which aims to make skilled workers flexible with the ability to learn new skills during their career. To date few studies have explicitly addressed the way technological change has an impact on the VET system.

The macroeconomic environment

Norway enjoys favourable circumstances as an oil-producer economy which has proven resilient even in times of global recession. As mentioned in the introduction, close cooperation between the government and the social partners - constituting an important element of the Nordic model - implies active and stability-oriented fiscal and monetary policies, and coordinated wage formation. Yet, naturally, Norway experiences macroeconomic fluctuations.

In Norway vocational training is dependent on the work processes and production in companies, and is thereby, at least in the private sector, sensitive to market conditions. Employers' recruitment of apprentices is closely linked to their demand for labour. At the same time, it has been argued that the VET system has developed certain autonomy in relation to the labour market. This should provide space for education policy objectives and strategies rooted in the logic of the education system's effectiveness and demand for education to withstand fluctuations in the economic cycle (Høst et al. 2008b).

It is evident that employers' intake of apprentices is intimately connected to the general economic climate. This means that during downturns, employers reduce their intake of apprentices. One aim of Reform 94 was to encourage employers to invest in the VET system as an education and training strategy and not only as a recruitment strategy, and thus make the intake of apprentices less sensitive to market fluctuations. It was important to establish mechanisms in order to shield the VET system from market fluctuations and stabilise it as a training system. Measures initiated included more favourable financing and grant systems for companies that took on apprentices, the formation of new follow-up and quality control schemes, as well as greater investment in training collaboration through LTAs and training circles (Høst et al. 2008b).

Figure 3: The development of new apprenticeship contracts and unemployment from 1973-2007

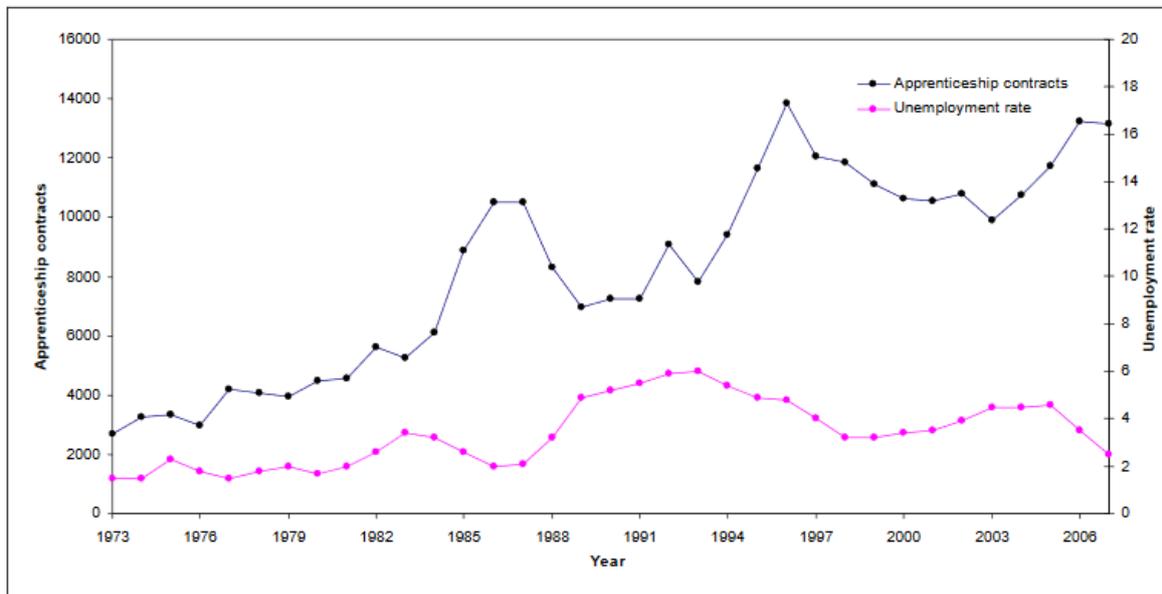


Figure 2.4: The development in numbers of new apprenticeship contracts and unemployment from 1973-2007

Sources: RFA's (VET Council) annual report, Linda Fag, Directorate of Education and Training, Statistics Norway¹²

The picture emerging is that it seems as if the unemployment rate, and number of apprenticeship contracts are moving in a counter phase as shown in the figure above. In periods of decreasing unemployment there is a significant increase in the number of new apprenticeship contracts, while during periods of increasing unemployment there is a decrease in the number of apprenticeship contracts. This is noticeable especially during the recession at the end of the 1980s there were fewer apprenticeship contracts than the trend would otherwise suggest (Høst et al. 2008b).

6. Conclusion

The case of the Norwegian VET system - commonly referred to as a combination of the bureaucratic, state-regulated model and the dual corporatist model - is characterised by a well-developed system of tripartite cooperation between social partners and the government (Nyen and Tønder 2014). The embedment of the Norwegian system in the Nordic model might imply that Norway is better equipped to tackle some of the challenges pointed to in this discussion, e.g., increased labour migration, immigration, and an ageing population, compared with other countries.

If the Norwegian VET system continues along the current trajectory, it will most probably function quite well within the traditional VET sectors, i.e., industry and crafts (i.e. sectors with a degree of path dependency and institutional inertia, these sectors have used the VET system for training and recruitment for decades. Employers have come to prefer this kind of kind of system). External factors such as the oil price, economic market fluctuations and continued technological innovation within national export-sensitive industries, may impact not only on employers' willingness to take in apprentices, but also the VET-system's perceived attractiveness amongst students.

Whereas, for other less established VET-sectors, e.g., service sector and health care, employers' receptiveness to this kind of recruitment system still remains quite open. Given the weak position of VET within 'new' VET sectors, the consequences of potential failure to institutionalise VET need not necessarily imply severe consequences for the national economy.

One of the pressing external challenges depicted here relates to labour migration. On the one hand, large-scale migration has enabled booming growth at a time when native craft personnel have been in short supply. On the other hand, there is evidence that large scale movements of labour has disturbed the power balance between capital and labour in industry, and negatively affected young people's desire to enter a vocational education in the building and construction industry (Friberg and Haakestad forthcoming; Røed and Schøne 2015).

Another challenge relates to the trend towards academisation and further expansion of the higher education system. Presuming that academic drift tendencies evident today increase, it might be difficult for the VET system to avoid becoming a 'dead end' in the education system. In order to sustain it, it is crucial that young people perceive vocational education as attractive, and suitable for career progression. Measures to increase permeability so that upper secondary VET can lead to higher education entry - including to higher VET - will be important in sustaining the attractiveness of VET. Perhaps will policy-makers consider it necessary to promote vocational tracks leading to double qualifications to a greater extent, i.e., providing both access to higher education and a vocational certificate. These two challenges, labour migration and academisation, might mutually reinforce each other by contributing to a polarised labour market regarding skills; between unskilled and those with higher education. If skilled labour is replaced by cheap unskilled labour as a result of increased labour migration, then VET may appear less attractive to young people, such that, the academic alternative becomes more attractive. Also, if the supply of skilled workers decreases, employers will look to other training and recruitment strategies (Nyen and Tønder 2014). This may have severe consequences for the Gross National Income.

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Poland

Aleksandra Fedaczyńska

I. Introduction

There is a well-established vocational education and training system in Poland. Nevertheless, VET has a far lower status than general education at every level. In essence, IVET as a destination has been seen as one for young people who do not possess the ability to continue their studies in general education. It was evident that the end of the 1990s / early 2000s that participation levels in VET were low. The government, since the early 2000s, has sought to tackle the problems of participation and esteem through a number of reforms and campaigns designed to increase the attractiveness of VET to young people. These reforms continue apace, but there remain substantial challenges ahead if the VET system is to better meet the needs of the economy.

Many of the recent changes have come from both the need to adapt the Polish system to meet EU requirements and meet the needs of a changing economy. The Polish economy proved to be resilient following the financial crises that affected most of Europe and continues to show relatively strong growth. As the government has tried to push the economy into the production of higher value goods this increased the demand for skills, but this has taken place against a backdrop of emigration of skilled people to elsewhere in the EU. This has required Poland to find ways of boosting its skills supply through, amongst other things, recruiting skilled people from neighbouring non-EU countries, improving the attractiveness of the VET system to young people, enhanced collaboration between employers and vocational schools in the provision of VET, and an increased emphasis on lifelong learning and accrediting existing skills. Poland in one way or another has been trying to tackle the problem of developing a VET system for much of its post-communist existence with varying degrees of success. There is, at the time of writing, a greater impetus or requirement to do so given the current interplay between economy and demography (explained in more detail below).

The EU has played an important role in driving change in the VET system in Poland. Resolutions by the European Commission in 2004⁴⁴ and 2009⁴⁵ obliged EU countries to develop a National Qualification Framework on the basis of EQF.⁴⁶ As of 2016 this has been implemented. As has a competence based approach to completing a vocational qualification. There are signs that the VET system has become more flexible over time. There is a registry of professions with VET qualifications designed to grant entry to these professions. The registry of professions lists the qualifications necessary to gain access with the curriculum for that qualification increasingly being drawn up with the involvement of industry (e.g. via sector skills councils). Moreover, with the

⁴⁴ Draft Resolution of the Council and of the representatives of the Member States meeting within the Council on Strengthening Policies, Systems and Practices in the field of Guidance throughout life in Europe of 18th May 2004 No. 8448/04 EDUC 89 SOC 179, Internet: <http://register.consilium.europa.eu/doc/srv?!=EN&f=ST%209286%202004%20INIT> on 2017-06-16

⁴⁵ Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020') No. 2009/C 119/02, Internet: [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528(01)&from=EN) on 2017-06-16

⁴⁶ European Commission; Cedefop; ICF International (2014). European inventory on validation of non-formal and informal learning 2014: country report Poland. http://libserver.cedefop.europa.eu/vetelib/2014/87072_PL.pdf

introduction of a core VET curriculum, there is more autonomy for vocational schools (and employers) to determine the skills, competencies, and knowledge to be delivered.⁴⁷

While there is much change in the VET system designed to increase its relevance and attractiveness to young people and the economy, it has been recognised that the country has been grappling with how to achieve this goal since its escape from behind the Iron Curtain. On the other hand, one could say that it has travelled a long way in a relatively short space of time.

2. What is meant by VET and the National VET System

In Poland, there is no official definition of VET. National reports on VET typically rely on definitions taken from the pedagogical literature or refer to a common understanding of the concept. VET is related to the Polish terms *kształcenie zawodowe* or *edukacja zawodowa* (professional/vocational or education/training). Legal acts that refer to the VET system do not define the term. The Ministry of Finance – which needs a definition of VET in relation to certain forms of tax relief - uses the VET definition contained in the European Council Implementing Regulation (EU) No 282/2011 when necessary.

The Polish national VET System consists of three main parts which are regulated separately.

1. Secondary and tertiary non-higher education - both formal and informal - is under the governance of the Ministry of the National Education.
2. Higher Education, which includes higher vocational schools (introduced in 1998), are regulated separately and belong to the National Higher Educational System.
3. The Chambers of Craft and Professions are subject to a separate set of regulations.

Completion of a VET programme gives access to a profession. A set of competencies are specified for each profession. As of 2017, there were 251 qualifications giving access to 200 professions in the National Qualifications Register.⁴⁸

VET in Poland mainly comprises school-based education provided by the state educational institutions to young people. CEDEFOP describes the school based structure of IVET as follows:⁴⁹

- vocational programmes (*zasadnicze szkoły zawodowe*) enable pupils to attain a vocational qualifications diploma after passing a State vocational examination and also to continue their education on a higher level in the second year of general upper secondary programmes for adults
- four-year vocational upper secondary programmes (*technika*) where graduates can attain a vocational qualifications diploma after passing a State vocational examination and also the upper secondary programmes completion examination certificate (*matura*).
- three-year special job-training programmes (*szkoły specjalne przysposabiające do pracy*) for students with mental disabilities allow to attain a certificate of job training.

⁴⁷ European Commission; Cedefop; ICF International (2014). European inventory on validation of non-formal and informal learning 2014: country report Poland. http://libserver.cedefop.europa.eu/vetelib/2014/87072_PL.pdf

⁴⁸ Act of 22 December 2015 on the Integrated Qualifications System (Dziennik Ustaw/ Journal of Laws of 2016 item 64)

⁴⁹ Chłoń-Domińczak, A. et al.(2016). Vocational education and training in Europe – Poland. Cedefop ReferNet VET in Europe reports. http://libserver.cedefop.europa.eu/vetelib/2016/2016_CR_PL.pdf

- up to 2.5-year post-secondary programmes (szkoły policealne) for students who have completed upper secondary.

Vocational Schools deliver both general and vocational education within a VET programme; additionally, students will spend time training with an employer as WBL is integrated into predominantly school based vocational education.⁵⁰ The emphasis currently placed on including a WBL element in school based programmes is seen as one of the ways in which VET system will better meet the needs of the economy in the future. In 2015 new form of dual education was introduced in vocational schools combining education at a vocational school with practical training. The practical training is based on agreement between a young person and an employer or between a school and an employer. A minimum number of vocational practice classes is set and employers can influence the content of vocational training programmes carried out as part of practical training within the company.⁵¹ There is also an apprenticeship system (operating at ISCED levels 2 and 3).

In addition to the above, there is the Voluntary Labour Corps (OHP). This form of education are designated for young people usually between the ages of 15 and 17 and are typically provided to students experiencing educational problems.

Post-secondary schools and technical Schools also have their equivalents for adults. Although VET has a lower status than the general or academic education, it can provide access to next level of education which can be important for adults looking to improve their careers. Accordingly, some adults attend vocational schools in order to obtain, extramurally, leaving certificates.

Acquisition of a VET qualification provides the opportunity to enter a profession. Examinations at a national level are organised by the Regional Education Authorities or The Chambers of Crafts. Because school-leaving exams are evaluated externally, there are Regional Institutions (Regional Examination Commissions (OKE)) which organise exams certifying the acquisition of skills. These institutions were introduced in 1999 following an amendment to the Educational System Act of 8th January 1999.⁵² There are currently eight OKE institutions responsible to the Central Examination Board (CKE). The CKE is responsible for the validation of qualifications for both general and vocational schools.

The list of professions is contained in the National Classification of Professions of Vocational Education and Training (KZSK) along with the relevant qualifications needed for entry to those professions. The Classification may cover new skills and professions which might be added to the list at a request of specified bodies, such as professional associations, ministries and business organisations.

The Chambers of Crafts operate on the basis of different legal regulations⁵³ and offer journeyman's examinations for young workers who have learned their profession by working for a craftsman associated to a Chamber. The Chambers can certificate professions that are included in the KZKS and other ones that are defined by The Polish Crafts Associations (ZRP). Examinations conducted by the Chambers consist of theoretical and practical parts and meet both the standards defined by the ZRP.

⁵⁰ Luck, Agnieszka (2013) Poland. VET in Europe – Country report. Cedefop, pp. 15 – 16

⁵¹ European Commission (2016) Education and Training Monitor 2016 – Poland. Luxembourg: Commission of the European Communities

⁵² Educational System Act of 8 January 1999 Dziennik Ustaw/ Journal of Laws of 1999 No. 12, item 96

⁵³ Act on Craft of 22 March 1989 (Dziennik Ustaw Official Journal of Laws of 2012 No. 112, item 979, as amendment)

There are also 350 regulated professions in Poland⁵⁴ that require certification the relevant professional association. There are separate regulations of gaining such certifications - for example, in the construction industry or in medicine.

3. Historical context – the direction of travel

A Short History of VET in Poland

One can trace the antecedents of the current system of VET back to the 19th century when the first vocational schools were established in the Polish lands under partition. Since the rebirth of the Polish state (with the creation of the Second Polish Republic at the end of WWI), one can point to four distinct periods in the development of VET:

1. period of the Second Republic (the inter-war years);
2. period of the Polish People's Republic (1945 - 1989);
3. the ten-year "construction of a new Poland " leading to the so called Handke Reform (1990-1999);
4. post-secondary vocational education (after the reform of the Education System in Poland).⁵⁵

The inter-war period was a turbulent one in Polish history. The period was characterised by relatively strong economic growth and intensive industrial development. The provision of VET at the time was fragmented. There were a variety of vocational schools, organised in a variety of ways, delivering VET related to specific professions at varying levels. Some of the schools at the time were characterised by high standards with a high reputation amongst employers; others less so. With the adoption of the Law on the School System on March 11, 1932, more uniformity was brought to the VET system. Newly established VET institutions, such as Vocational Secondary Schools, received the same status in law as that which had previously only been provided to general education. All vocational schools allowed the continuation of study into higher education.

The pre-war system was more or less dismantled in the post-1945 period. The period of the Polish People's Republic was a time of rebuilding the VET system after the war to meet the needs of centrally planned economy. It was based on the assumption that people needed to be trained to work in a particular job in a particular sector. This was the purpose of the VET system during this period. VET was not seen as part of the education system – its purpose was simply that of equipping people with the skills needed so that they could carry out the job assigned to them. A Central Office for Vocational Training was established in 1949, but for the most part vocational schools were subordinate to various ministries depending on the profession in which they trained (e.g. Agricultural Schools were responsible to the Ministry of Agriculture). During this period vocational schools were divided into three types depending upon the level of learning they delivered:

- Basic vocational schools;
- Vocational education schools; and
- Technical colleges.

⁵⁴ http://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprofs&id_country=23&quid=1&mode=asc&maxRows=**#top%20 on 2017-06-23

⁵⁵ Report on Education (2012) Educational Research Institute, Warsaw http://biblioteka-krk.ibe.edu.pl/opac_css/doc_num.php?explnum_id=414 on 2017-06-16

Basic vocational schools were the most commonly chosen type of schools at the time; about 55% of all primary school graduates attended basic vocational schools. For the majority of them, this was their last level of education.

In the 1970s the first public criticism of the VET system were aired. A report at the time, prepared by the experts, demonstrated that vocational schools were second rate. Most of the graduates went straight to work with no prospect of further study, and the courses offered were narrow, used outdated methods and equipment, and provided little or no basis for continued study.

During the period of political transformation, a report titled "Education as the National Priority" was released at the end of the 1980s. It was a document essentially describing the same state of affairs as that described in the 1970s. The IBE Report "Education in Poland" quotes the formidable challenges facing policy makers at the time (see box).

Promotion of pre-school care, improvement of early-school education, development of pedagogical and professional path, respect for the curriculum <teach and learn slogan> combining the curricula of general education and vocational training, the development of the school system in accordance with the principles of lifelong learning, and the reform of educating teachers.

Source: Report on Education, Educational Research Institute, Warsaw, 2012 http://biblioteka-krk.ibe.edu.pl/opac_css/doc_num.php?explnum_id=414 on 2017-06-23, p.

After the political changes, a team of experts was created to introduce innovations in national education including the VET system, which had to be adapted to the requirements of the new economic realities. In 1991, the Education System Act⁵⁶ was passed (still valid, though amended several times). The document as a whole, however, treated VET marginally. But for the most part there was not much interest in VET at this time. The number of students decreased, many VET schools were abolished, and the remaining ones, due to under-funding, offered low quality services. Research studies at that time⁵⁷ pointed to the need to build relationships between VET institutions and employers, and the necessity of improving the professional development and guidance system.

A key change in the Education System in Poland was the Handké Reform in 1998. The reform led to the introduction of the lower secondary school "gymnasium" as a new type of school. The decision was made to reduce the duration of primary school education to six years, after which pupils would continue their education in secondary school (gymnasium) for three years and only upon completion of this cycle would a decision be made about whether they would continue in the general track (specialized lyceum) or enter a two-year cycle of education in vocational school. The structural reform postponed the choice of the direction of education at the secondary level (general or vocational curriculum) by one year. The evidence suggests that by delaying the decision about when to start vocational studies has improved pupils test scores. It appears that the extra year of general education had a beneficial impact on pupil's education.⁵⁸

⁵⁶ The Educational System Act of 7 September 1991 (Dziennik Ustaw/Journal of Laws 2004 No. 256 item 2572 as amended) – Act of 19 August 2011 amending the Educational System Act and other Acts (Dziennik Ustaw/Journal of Laws 2011 No. 205 item 1206 as amended)

⁵⁷ Adamski W. (ed.) (1993), *Edukacja w okresie transformacji. Analiza porównawcza i propozycje modernizacji kształcenia zawodowego w Polsce*, Warszawa

⁵⁸ M. Jakubowski, H.A. Patrinos, E. Porta, and J. Wiśniewski. (2010), "The Impact of the 1999 Education Reform in Poland", World Bank Policy Research Working Paper Series 5263

As well reforming the structure of the education system a core curriculum was also introduced. This essentially freed schools from a centrally determined curriculum and gave them autonomy over what they taught. The new VET core curriculum in VET includes the development of soft skills (i.e. interpersonal and social competences) such as forward planning, openness to change, managing and coping with stress as well as the ability to work in team.

In the period following the reforms there was a feeling that the VET system had failed to flourish. It was still very much a second-choice for students. The history of the development of vocational education in Poland indicates the stages of flowering and the phases of withdrawal. The national VET system has changed over the years, changing the VET roles and priorities. At the beginning of its existence, it was supposed to train professionally qualified staff. In the post-war years up to the transformation of the political system, VET was an option for children from agricultural and working families who, having finished early-level education constituted a source of labour for the state-owned factories. Since 1989, despite a number of reforms, VET had not really adapted to the changing economic realities, resulting in it being out-dated and under-funded. This led to further round of reforms commencing in 2008 which, arguably, have begun to gain traction.⁵⁹

After 2008 and encouraged by EU regulations, the aim was to develop a more coherent VET system. There were many Ministerial studies about need to increase of the quality of VET and its standards. The most recent change in institutional structure was the creation of a National Office for Vocational and Continuing Education that mirrored the structure of Centre for Education Development relating to general education. Further forms were introduced in 2012 (see box).

The 2012 vocational education reform, introduced by the Act of 19 August 2011 on amendments to the Education Act and other acts (Dz. U. No 205, item. 1206), focused on the increasing attractiveness and adjustment of VET to the needs of the labour market. To be able to respond to the labour market needs the VET schools must not only follow the newest technological trends and reflect them in their curricula but also promote innovativeness of the teachers and students. This cannot be done without a close cooperation with local employers, branch organisations and research and development institutions.

Source: Boguszewski, B., Luck, A. (2014) Innovation In VET. Poland. Cedefop, p. 4

The reforms introduced in 2012/13 included a learning outcomes based curriculum, a new formula for external assessment, new procedures for validating non-formal and informal learning, and the out-of-school system of vocational education courses. The reforms also led to an integrated qualification system. In 2016 Polish Qualifications Framework (PQF) came into being which means that qualifications in formal and non-formal education will be assigned to designated PQF levels. The integrated qualifications register was launched in July 2016 and is coordinated by the Minister for National Education. By extending the possibility to accumulate and transfer learning outcomes achieved in various contexts, these tools allow for greater flexibility in obtaining further qualifications and make it learning pathways more flexible.⁶⁰

⁵⁹ Boguszewski, B., Luck, A. (2014) Innovation In VET. Poland. Cedefop <http://www.cedefop.europa.eu/EN/Information-services/vet-in-europe-country-reports.aspx> on 2017-06-16

⁶⁰ European Commission (2016) Education and Training Monitor 2016 – Poland. Luxembourg:

The Integrated Qualification System

The Integrated Qualification System has enabled the implementation of the most important elements of the ECVET system:

- identification of qualifications included in the Vocational Education System (as well as partial qualifications involved in several professions),
- description of qualifications using learning outcomes, organised in accordance with the ECVET requirements,
- possibility to gather and transfer the learning outcomes (for instance, in the professional practice system)⁶¹

The Integrated Qualification System reflects the change of dominance in the Education System in Poland. According to European requirements, the qualification system has been created. Competencies constitute the basic measure of education, in both general and vocational schooling.

A change in VET from a career-oriented to a qualification standard allows for greater flexibility and acquisition of single skills to obtain further professional training. What is more, it lets early-stage learners enter the Vocational training system outside the formal policy.

The Act on the Integrated Qualifications System (IQS), which came into force on 15th January 2016, introduced systemic solutions which includes: labour market qualifications (regardless of the way they are acquired), responsibilities of institutions, principles for quality assurance, etc..

The Integrated Qualification Register (IQR) is operated by the Polish Agency for Enterprise and Development (PARP). The data recorded in the IQR comprises of qualifications conferred at all levels of Polish Qualification Framework (PQF). It consists of all competencies that can be obtained at the level of General, Vocational and Higher Education.⁶² Initially, IQS was filled with full and partial competencies from formal education. Now, the data on qualifications from the market is being gradually included. Market qualifications are those which are used in the labour market but not necessarily possible to obtain within the formal education system. Associations of entrepreneurs and the Minister responsible for an industry sector may request a new qualification which stems from market demand to be added to the register.⁶³ The procedure of adding them to the list, as the market qualifications are the ones which do not have a commonly applicable legal basis, requires a systemic approach referring to quality assurance

4. Changes in VET enrolment

The graphs below show significant changes in the number of students recorded in Poland over the last twenty years. The key point is the declining number of students choosing the vocational path (see Figure 1) or completing the vocational path (Figure 2). The reasons for the changes rest with:

- the 1989 constitutional change;
- demographic changes;
- economic changes; and
- the Reform of the Education System.

⁶¹ Educational Research Institute (2013) Report on Education ,Warsaw, p. 205

⁶² Duda A., (2016) Country Report. Poland. 2016 update to the European inventory on validation of non-formal and informal learning. Cedefop. www.cedefop.europa.eu/files/2016_validate_pl.pdf

⁶³ Ibidem.

The 1989 constitutional changes resulted in rapid economic change and an increase in the unemployment rate. It tended to be those who were educated in the vocational pathway that lost their jobs in the move to a market based economy.⁶⁴ But this may be seen as a transitional effect.

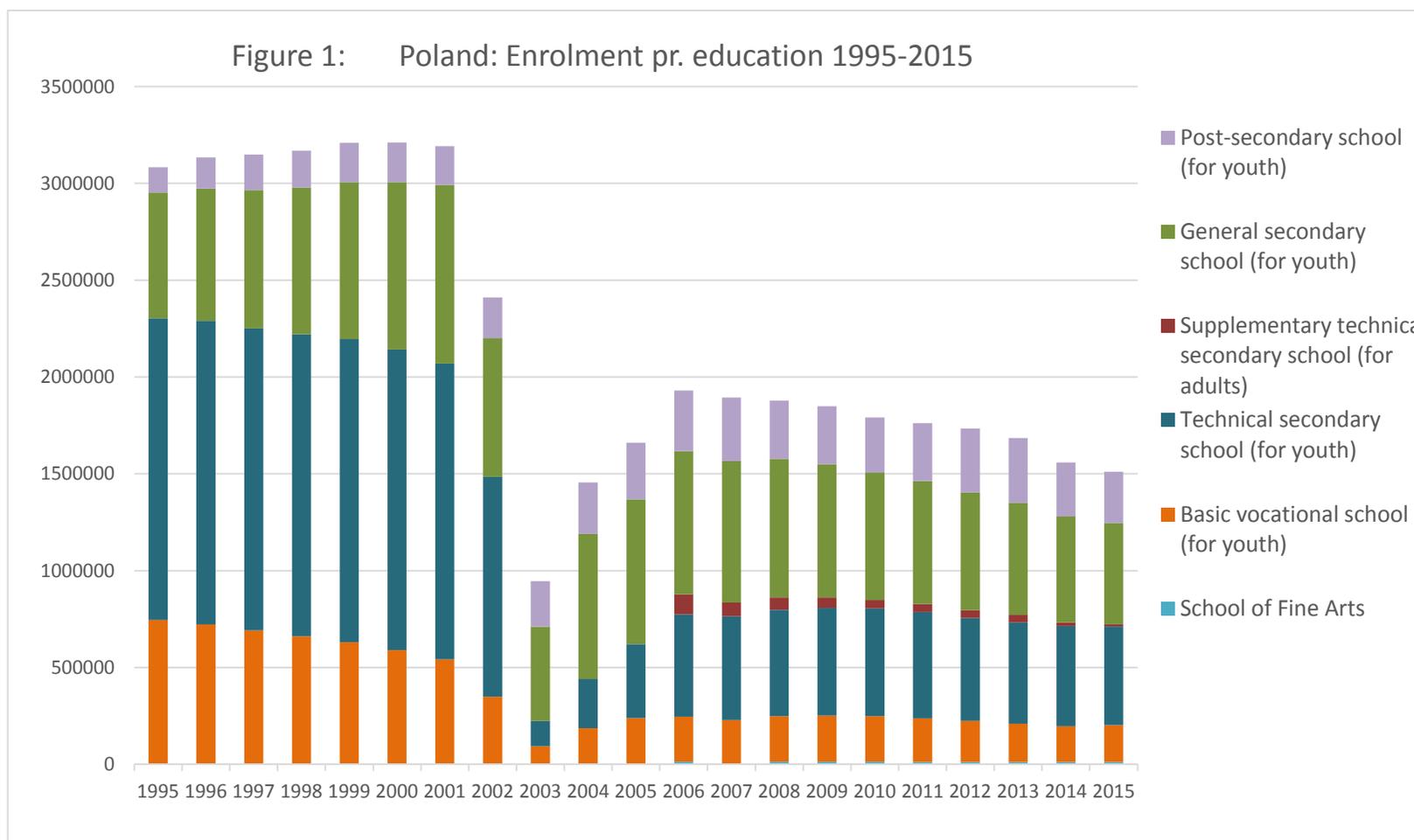
More long lasting is the scale of demographic change and the decline in the number of people aged 15-19 years. This phenomenon is evident in the graphs presented – there is less than half the number of secondary school students now than in the 1990s. This phenomenon will be discussed in more detail in the next section.

Economic developments have wrought change on the education system too. Technological change has led to the loss of many traditional jobs to which the VET system granted entry. At the same time, there has been the emergence of new sectors of activity (often ICT linked) that gives a rise for new skills. The vocational schools historically have been under-funded, under-equipped and lag behind in having the capacity to deliver the new skills that the economy needs. This has an adverse impact on the standing of the VET sector which the consequence that young people have voted with their feet and selected the general academic route. Additionally the vocational schools have encountered problems in preparing students for the Matura exam. Compared with general secondary schools, which have a pass rate of 85%, that in vocational schools is much lower standing at 68% (data for 2016).⁶⁵

The revolution in the Polish National Education System following the Handke reforms was designed to increase the number of students in upper secondary school and higher education. But the impact on overall participation levels seems to have bypassed vocational education (participation in IVET was higher before the reform). Systemic changes were introduced in 2012, as well as a programme to improve the image of VET in society, especially among young people. Between 2010 and 2013, the programme promoted the importance of VET but it seems to have had little impact.

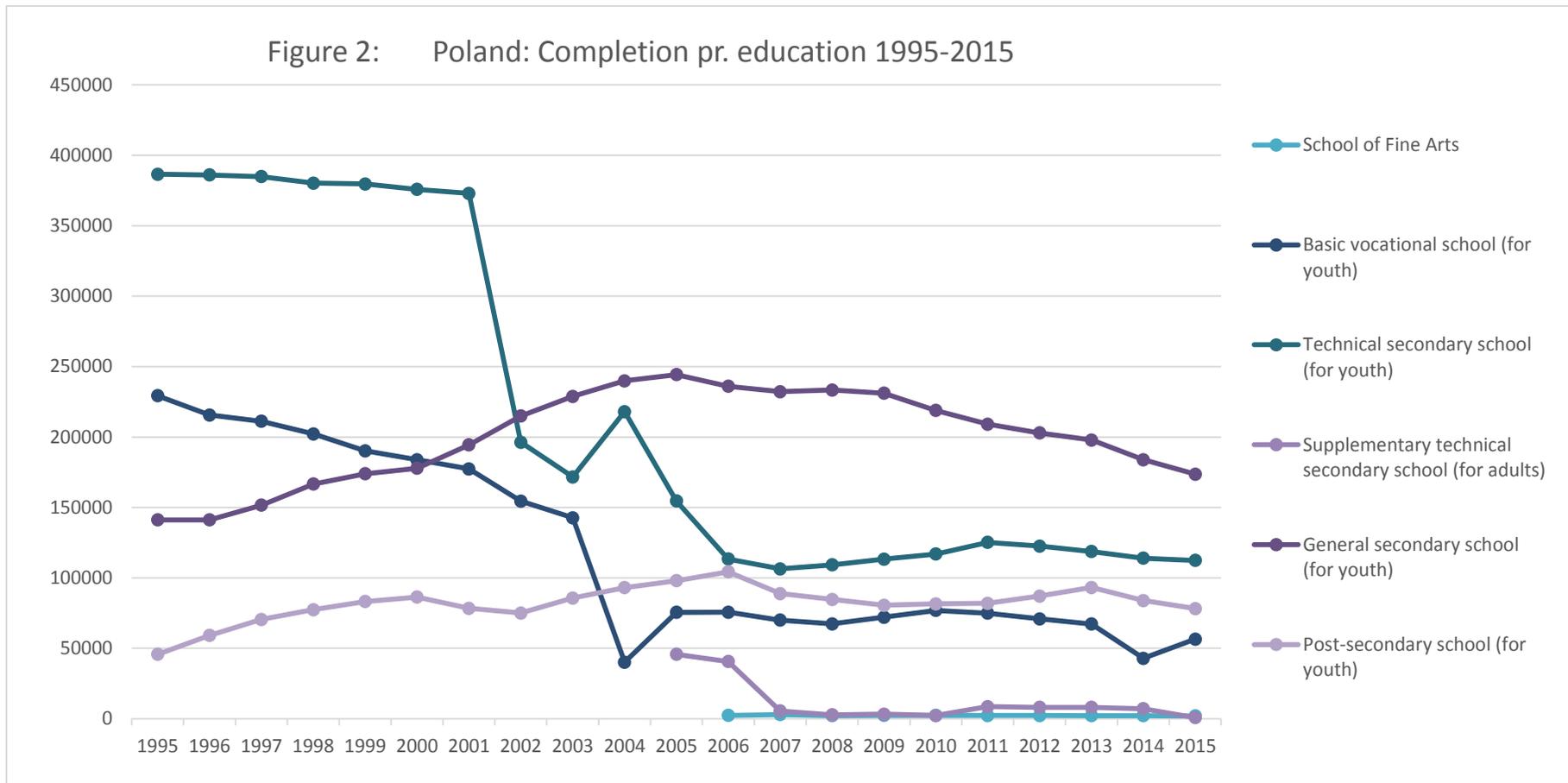
⁶⁴ Educational Research Institute (2012) Report on Education , Warsaw http://biblioteka-krk.ibe.edu.pl/opac_css/doc_num.php?explnum_id=414 on 2017-06-16

⁶⁵ Central Examination Commission, Report on the “matura” 2016, https://www.cke.edu.pl/images/EGZAMIN_MATURALNY_OD_2015/Informacje_o_wynikach/2016/sprawozdanie/Sprawozdanie_ogolne_2016.pdf on 2017-06-16



Source: Statistical Yearbooks of Poland 1995 – 2015

Figure 2: Poland: Completion pr. education 1995-2015



Source: Statistical Yearbooks of Poland 1996 – 2016.

Any analysis of enrolment data needs to consider participation in lifelong learning. This has been historically low in Poland. Participation levels are low and the percentage of people who would like to participate but cannot is high in comparison with the EU average. Due to the collapse of the centrally planned economy and with it many manufacturing plants, the involvement of entrepreneurs in VET drastically declined. Today, the involvement of entrepreneurs in vocational training in Poland constitutes only 33% of the EU average.⁶⁶ It is thought that the reduced inflow of new workers from the education system – due to demographic trends - will propel employers towards investing in the training of their workforce leading to acquisition of professional qualifications. It is further thought that educational institutions, otherwise short of students, will increasingly provide professional training within the VET system and thereby promote lifelong learning. What is more, they will try to do their best to adjust their training offer to the needs of the market as well as to the expectations of any new group of older learners.

5. The interplay between external and the internal factors shaping VET

Demographic change

One of the most formidable challenges facing Polish society – and the education system – is demographic change. The population is declining quickly as a consequence of emigration and a declining birth rate. The scale of demographic change can be seen readily from the Central Statistical Office's forecast. The number of people aged under 17 years will decrease by 1.2 million in the period to 2040, and by 2050 the population in this age group will be 30% lower than in 2013.⁶⁷ Taking the age groups into consideration, the number of people in the range of 19-24 will decrease the most (see Table 1). These changes will affect mainly educational institutions which offer tertiary and post-secondary education.

Table 1: Increase/decrease of population size by educational age groups (in 000s)

Age group	2013 - 2014	2014 - 2015	2015 - 2020	2020 - 2025	2025 - 2030	2030- 2035	2035- 2040	2040- 2045	2045 - 2050	2013 =100
13 – 15	-24.9	-51.2	3.1	47.7	-97.0	-138.4	-223.2	-288.3	-310.0	73.0
16.- 18	-45.6	-90.4	-209.4	-7.0	-160.1	-231.6	-290.8	-374,8	-422.0	66.7
19 - 24	-115.1	-237.1	-735.6	-904.9	-629.6	-871.1	-1012.5	-1138.9	-1296.6	57.8

Source:

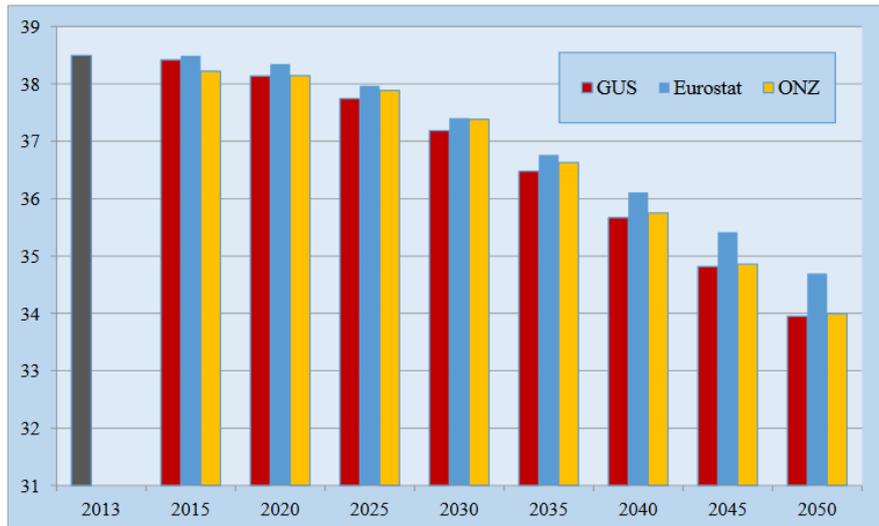
http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5469/1/5/1/prognoza_ludnosci_na_lat_a____2014_-_2050.pdf#page=140&zoom=auto107449, p. 152

In short, the population of Poland will decrease drastically in the next 35 years up to 2050, at most, half of the state from 2013 (see Figures 3 and 4). Poland, compared with many other European countries as well as the EU average, will significantly reduce in population. This situation will not only affect the number of younger students in educational institutions.

⁶⁶ Ibidem.

⁶⁷ http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5469/1/5/1/prognoza_ludnosci_na_lat_a____2014_-_2050.pdf p. 148 on 2017-06-16

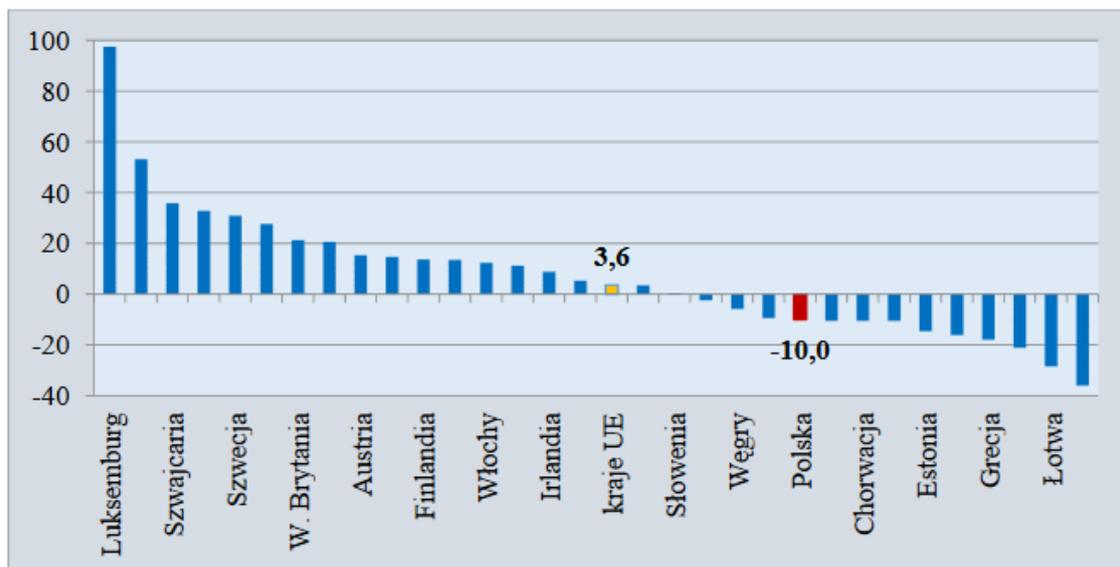
Figure 3: Population projection for Poland (millions)



^a2013 r. – dane rzeczywiste; 2013 – actual data

Source: http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5469/1/5/1/prognoza_ludnosci_na_lata____2014_-_2050.pdf#page=140&zoom=auto107449, p.164

Figure 4: Projected changes in population size 2013-2050 (in %) (Poland – red, EU average – yellow)



Source: http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5469/1/5/1/prognoza_ludnosci_na_lata____2014_-_2050.pdf#page=140&zoom=auto107449, p.165

Technological change

Over the past 20 years or so the Polish economy has grown substantially and has proved to remarkably resilient in the post-crisis period. At present, the economy is growing by around 3½% a year. The government has signalled its intent to drive up productivity in the economy through a process of innovation and capture of relatively high value-added segments of the market. This is, to some extent at least, dependent upon being able to improve skills supply. There are a number of factors of interest here:

- stimulating skills supply (especially in the light of observed outflows of skilled workers to elsewhere in the EU);
- ensuring that skills supply meets skills demand; and
- providing vocational schools with the resources to produce the skills the country needs.

Emigration from Poland has resulted in its labour and skill stocks being depleted. Many of those who emigrate are relatively high skilled. Given demographic trends this has placed a pressure of being able to stimulate skills supply. To date, this has been met by encouraging immigration from neighbouring countries (some outside of the EU), encouraging participation in continuing training (which has been historically low by EU standards), and accrediting existing skills that may have been acquired through informal / non-formal means. The Polish Qualifications Framework (*Polska Rama Kwalifikacji, PRK*), and the integrated qualifications registry (*Zintegrowany Rejestr Kwalifikacji, ZRK*), that were introduced in 2016, should support moves to increase (accredited) skills supply.

Whilst it is important to increase skills supply, there is also a need to ensure that it is relevant to the needs of the labour market. It has been readily apparent in the post-communist period that the IVET system has not been able to meet the needs of the labour market which has, in turn, contributed to its lack of attractiveness to young people. There has been a tendency for vocational schools to teach subjects they have the resources to teach rather than what is in demand in the labour market.

It has been further noted that vocational schools often do not have either the equipment or the teachers with the knowledge to develop the (new) skills in demand in the labour market. It is interesting to note that the latest reforms of the VET system look to bring vocational schools and employers closer together, so that employers can share their expertise more in teaching young people. The emergence of sector skills councils may well have the effect of being able to more readily identify the key competencies that individuals need to acquire to enter a given profession (i.e. those listed on the registry of professions). As the OECD points out, if employers want to counter skills shortages in the future then it is beholden upon them to engage with vocational schools to acquire the skills they need. The creation of the core vocational curriculum leaves space for vocational schools and employers to develop the skills that they consider to be of particular importance in the labour market.

Macro-economic developments

Historically living standards have been low in comparison with Western Europe and unemployment rates over the 2000s relatively high. These have undoubtedly had an impact on the relatively high levels of emigration observed over recent years. This, coupled with the low fertility rate, has, as noted above, created demographic pressures that have implications for the economy. The unemployment rate has fallen over recent years - in part driven by relatively strong economic growth and in part through the retirement of older workers whose skills were obsolescent – and there are signs that the vacancy rate is increasing. The fact that Poland, by EU standards, has low labour market participation and employment rates means that there are signs that conditions in the labour market are tightening which could, potentially, have an impact on growth. As noted above, to counter this trend the government is looking to boost labour and skills supply. But it faces a number of challenges. Productivity rates are relatively low by EU-standards which, at least in part, explains why wage levels are relatively low and the preference for many well qualified Poles to emigrate to elsewhere in the EU. And being able to boost productivity rates is dependent upon having relatively well qualified employees to introduce and operate new technologies and production processes. As noted above there are plans afoot to boost skills supply but it has to be recognised that this remains a formidable challenge for the VET system.

6. Conclusion

Vocational Education in Poland has been modified in a very heterogeneous way. Throughout the last hundred years it has functioned in, at least, three different political and economic systems. The national VET system in Poland is built on the basis of adaptation to the changing environment (including external conditions) and the implementation of EU recommendations. The challenges facing VET in Poland are a combination of external and internal factors. The necessity to reform the system is driven by a significant decline in the population as well as social transformations. The country is characterised by a lack of stability in employment, the necessity and the need to change professions, and a longer period of activity in labour market. In fact, all these factors contribute to the development of VET in Poland. The most significant innovation has been the development of a competence based vocational qualification system.

Changes in the Vocational Education System (2012), and then the formation of the Integrated Qualification System (2016) provide evidence of attempts to make solutions consistent with the European System and, in doing so, adjust to the reality of the current labour market. Both employers, who are able to better recognise workers whose competencies they need, and employees, who can control their education and career in a more personalised way, will benefit greatly.⁶⁸ The move towards a position that favours employers and individuals, suggests that developing areas of VET in Poland, namely the involvement of employers, the participation of adults and older adults in lifelong learning, constitutes progress that will move Poland closer to today's distant, European average.

⁶⁸ Educational Research Institute (2013) Report on Education ,Warsaw, p.198

Finland

Vesa Kokkonen

I. Introduction

The Finnish VET system is led by government. The ministry of Education and Culture approves the curriculums and gives vocational colleges their licences. Most vocational colleges are owned by the municipalities or consortiums of municipalities, making all vocational degrees comparable.

Over last two decades Finland has faced several economic challenges which have also shaped the VET system in the country. Because Finland is such a small economy, the economic cycles have been drastic. In the early 1990s Finland was hit by a severe recession that caused high unemployment and a large public budget deficit. Finland eventually recovered from the depression led by the expanding telecom cluster marked by Nokia becoming the leading mobile phone manufacturer in the world for a decade. This era finally ended with the financial crisis in 2009. The following period was marked by much slower recovery than in the rest of Europe. This was mainly due to structural problems in the Finnish economy; the collapse of the Finnish mobile phone industry, the problems of the pulp and paper industry because of a declining demand for printing paper and the political instability in Russia which is one of Finland's most important trading partners.

All these changes have affected the Finnish educational system which has had a hard time adjusting to the changing labour needs. The cycles have also affected the funding of the educational system, including VET.

Even though the environment has changed dramatically, the main driving force behind the development of the VET system has been the political agenda to raise the educational level in Finland. Since the 1970s, the target of the Finnish education policy has been to make sure that everyone has a degree that enables access to the labour market.⁶⁹ This has been a dominant feature in the educational system meaning that everyone should have an opportunity to study. This was deemed important for the sake of social inclusion. In the 1990s, the government set an objective to raise the portion of highly educated people. This had a significant impact on the VET system by expanding all basic VET degrees to last three years and granting qualifications for further studies at the university level. At the same time, the higher vocational colleges were transformed into the universities of applied sciences. This marked the end of higher level VET (ISCED5) in Finland and these degrees were replaced by university level/ bachelor (ISCED6) degrees.

Finnish geographical and demographic pressures led to the merging of municipalities. In 2007, the government introduced a law that stated that the organisation of vocational education requires a population of 50 000 inhabitants.⁷⁰ This led to municipalities founding consortiums to organise VET, since most Finnish municipalities have less than 50 000 inhabitants and even the larger ones typically collaborate with the smaller municipalities around them. This led to the closing of many VET units across the country so that costs could be cut. Finally, budget cuts in recent years in education have led to the downsizing of some of the VET programmes.

There is an ongoing vocational education reform in Finland.⁷¹ The main driver is increasing the labour market orientation in vocational education. This means adding more on-the-job learning, having more personalised study paths, the recognition of acquired skills etc. The idea behind the

⁶⁹ <https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/75236/okm01.pdf?sequence=1>

⁷⁰ <http://www.finlex.fi/fi/laki/ajantasa/2007/20070169>

⁷¹ <http://minedu.fi/amisreformi>

reform is to meet the needs of the rapidly changing working life, and to factor in demographic and technological changes.

2. What is meant by VET and the national VET system

In Finland, VET is upper secondary education and it is well defined as a part of the Finnish educational system. VET offers an occupational qualification but it also qualifies an individual for further education at the university level. As of now, there are different systems for basic VET and adult VET, even though they provide the same qualifications. Whereas basic VET is more school oriented, adult VET is based more on demonstrating skills that have already been acquired through working life. Currently, the school-based system is the dominant form of IVET.⁷²

Finland's VET is centrally organised and led. Vocational schools owned by municipalities or consortiums of municipalities are the main providers of VET. There are also some government or privately owned vocational schools. Most of VET is funded from the education budget. There is also some employment policy funding for those students who are re-educating themselves because of unemployment and a limited availability of jobs for existing skills. For the student, official degree oriented studies are free of charge – this covers education at all levels.

In 1998, the VET legislation changed. The major impact of the new legislation was that all vocational degrees now have the same basic structure and give equal qualifications for further education. The role of work-based learning has grown in the past 20 years, even though most of the learning still takes place inside classrooms. The recognition and validation of skills and competencies already acquired previously has also become more and more important.

Basic non-adult VET education is aimed at 15-16-year-olds who are entering the secondary level of their studies after primary school. The age of students, however, is not regulated and adult VET has increased the possibilities of adults educating themselves at vocational schools. VET training can also be delivered as an apprenticeship even though it is not widely used in Finland. The amount of apprenticeships has been declining over the past few years. Besides basic VET, there are further VET and specialist VET qualifications. These are ways of expanding one's vocational skills and opening paths to specialised occupations.

3. The historical development of VET in Finland

Following the Second World War, there was a demand for skilled workers in the Finnish labour market since only a small minority of industrial workers had proper training and industry needed to produce goods to pay as war reparations. This created a demand for vocational training and the first vocational schools were founded in the 1940s. In 1958, the new vocational education law demanded that all municipalities with over 20 000 inhabitants had to have a vocational school and smaller municipalities had to reserve study places at these schools. A reform took place at the end of the 1970s to consolidate vocational training into a more condense system containing 25 basic programmes and 250 specialisations.⁷³

The Finnish VET system went through a large reform in the end of the 1990s. The 1998 reform aimed to consolidate legislation into a general framework act with focus on the regulation of education instead of institutions.⁷⁴ This harmonised the duration of all vocational study programs to 120 study weeks and incorporated an on-the-job training period of at least six months into all study programmes. There is evidence that students prefer work-based learning and that this has increased

⁷² <http://www03.edu.fi/aineistot/tonet/eng/vet.html>

⁷³ <http://nord-vet.dk/indhold/uploads/History-of-Finnish-VET-28062014-final2.pdf>

⁷⁴ <http://www03.edu.fi/aineistot/tonet/eng/general.html>

the attractiveness of VET. The workplace learning system has also led to a declining trend in dropout numbers in IVET.⁷⁵

Due to the legislation changes, all vocational colleges were transformed into polytechnics and universities of applied science. Because of this, all higher education now takes place at universities. The duration of basic level vocational education was expanded to three years and VET graduates were also qualified to apply to all institutes of higher education, making them eligible for university. This change guarantees VET graduates the same study path as those from high school, unifying the Finnish secondary education system and providing equal educational opportunities despite the path chosen. Before the reform, the route from vocational education to higher education was not straightforward and included many dead ends. This has been one of the great strengths of Finnish IVET and a feature that separates it from many of its European equivalents.

The purpose of these changes has been to increase links between VET and working life. On-the-job learning provides students practical experience of the work they are going to be doing which can be both useful and motivational. A close link between vocational education and working life is important since the Finnish VET system has been oriented towards the labour market.

Another large change that was brought to the VET system in the 1990s was the introduction of competence demonstration, which was officially established in 1994. This system enables a student to earn their vocational degree by demonstrating skills that they have acquired through working life. This allows working-age adults to gain vocational qualifications without necessarily attending formal training.⁷⁶ The reform has had the most significant impact on the different educational paths in Finland. Now there are numerous more possibilities of obtaining both the VET degree and the matriculation examination certificate than there were before. In addition, skills exams have provided more flexible ways of obtaining vocational qualifications. These changes, along with eligibility to access higher education, have helped increase the popularity of VET in Finland and improved its position in the Finnish educational system.

The motives behind the development of the VET system have changed over time. When the first vocational schools were founded, their primary role was to produce skilled workers that the labour market needed. In later reforms, the influence of the Nordic welfare state can be seen, as much of the development has centred around providing equal education opportunities for everyone living in Finland and access to lifelong learning.

Largely due to cuts in vocational funding in the beginning of 2017, there is an ongoing reform to modify the very concept of VET. The reform is strongly based on the idea of customer-oriented VET, meaning that VET is designed to meet the needs of students and working life.⁷⁷ The need for lifelong learning is increasing all the time which has brought more students to VET. Now, the challenge is adapting to the environment and providing prerequisites for lifelong learning while at the same time budget cuts are limiting access to education.

4. Changes in participation

There are several different programmes for obtaining vocational qualifications in Finland and they do not all have direct translations. Initial vocational qualifications can either be obtained through school-based programmes or through competence-based qualifications or skills examinations. Further vocational qualifications and specialist qualifications can be obtained after initial vocational

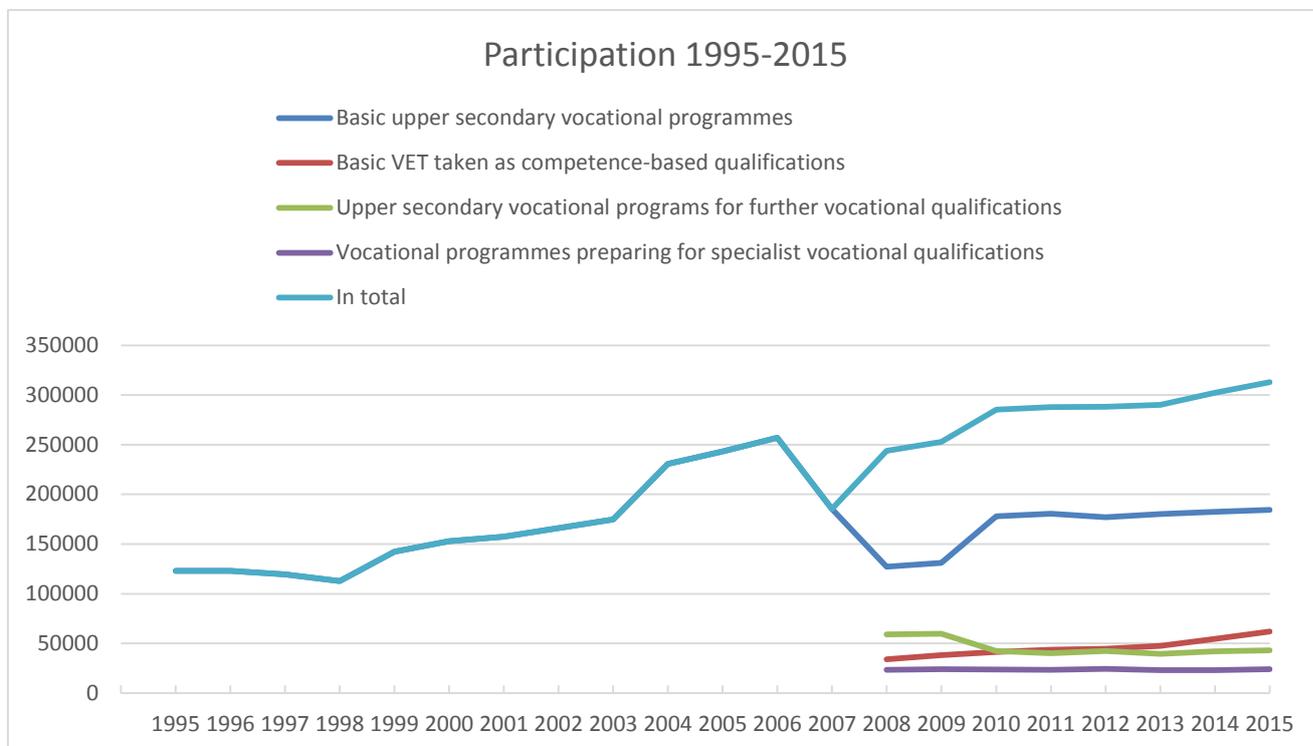
⁷⁵ <http://nord-vet.dk/indhold/uploads/History-of-Finnish-VET-28062014-final2.pdf>

⁷⁶ <http://nord-vet.dk/indhold/uploads/History-of-Finnish-VET-28062014-final2.pdf>

⁷⁷ https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Finland:National_Reforms_in_Vocational_Education_and_Training_and_Adult_Learning

qualifications have been obtained. Both these further qualifications are achieved through skills demonstrations or apprenticeships. There is no school-based education for acquiring them. Apprenticeship training programmes are not listed separately but are included in the statistics below (see Figure 1).

Figure 1: Participation in vocational education in Finland 1995-2015



Source: Statistics Finland

The popularity of VET in Finland has increased steadily over the past 20 years. Participation in VET figures have fluctuated yearly but the overall trend is one of participation being on the rise, as seen from the trend line in Figure 2. The proportional popularity of VET has also increased, especially in the 21st century: in 2012, 42% of young people continued their education in IVET and the corresponding figure was 32% in 1992.⁷⁸ Note that the different VET programmes were not listed separately until the year 2008 and some data from the year 2007 are missing.

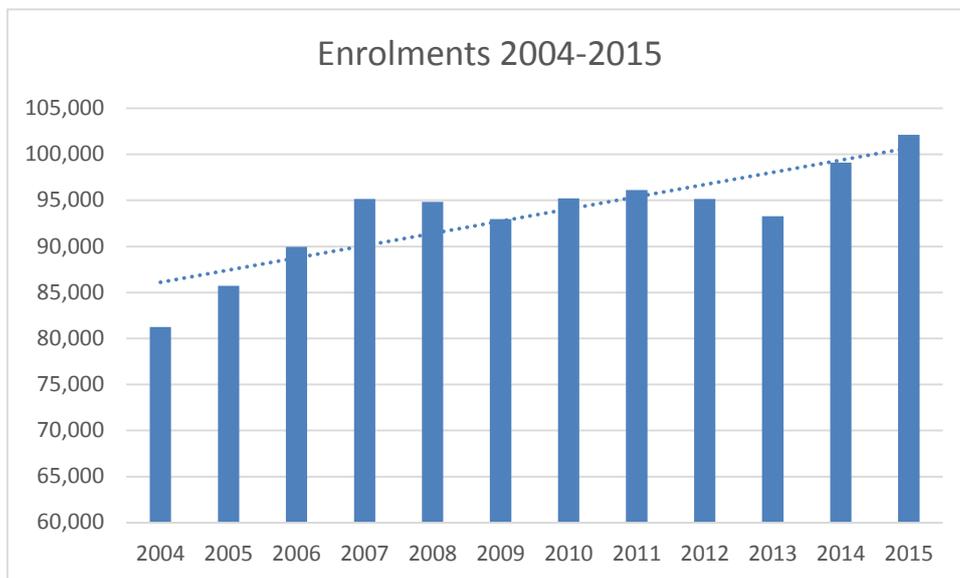
Various factors have affected the popularity and enrolment rates of vocational education. The “youth guarantee”, which was introduced in 2013, was aimed at helping young people gain access to education and employment. It prioritised young first-time applicants when applying to secondary schools and limits the possibilities of studying for more than one degree. Finland has also gone through structural changes after the financial crisis which has created a demand for VET as a means of tackling the skill needs of unemployed people.

These different factors have all had an influence on enrolment in upper secondary schools but the magnitude and effect of each separate factor is unclear. The Finnish VET system also has a lot of variety (school based, competence demonstration, apprenticeship, unemployment policy programmes, etc.) making it difficult to obtain a good overall picture of the effects of these changes. They can be seen in the statistics but isolating the different changes and analysing their effects is difficult since the different programmes can be under the same category in the statistics. As can be

⁷⁸ <http://nord-vet.dk/indhold/uploads/History-of-Finnish-VET-28062014-final2.pdf>

seen from the chart below, the overall trend of VET enrolment is rising. The enrolment rates may follow the rising popularity of adult education since there have been several programmes to encourage those without any completed degrees to study as an adult.

Figure 2: Enrolments in vocational education in Finland 2004-2015

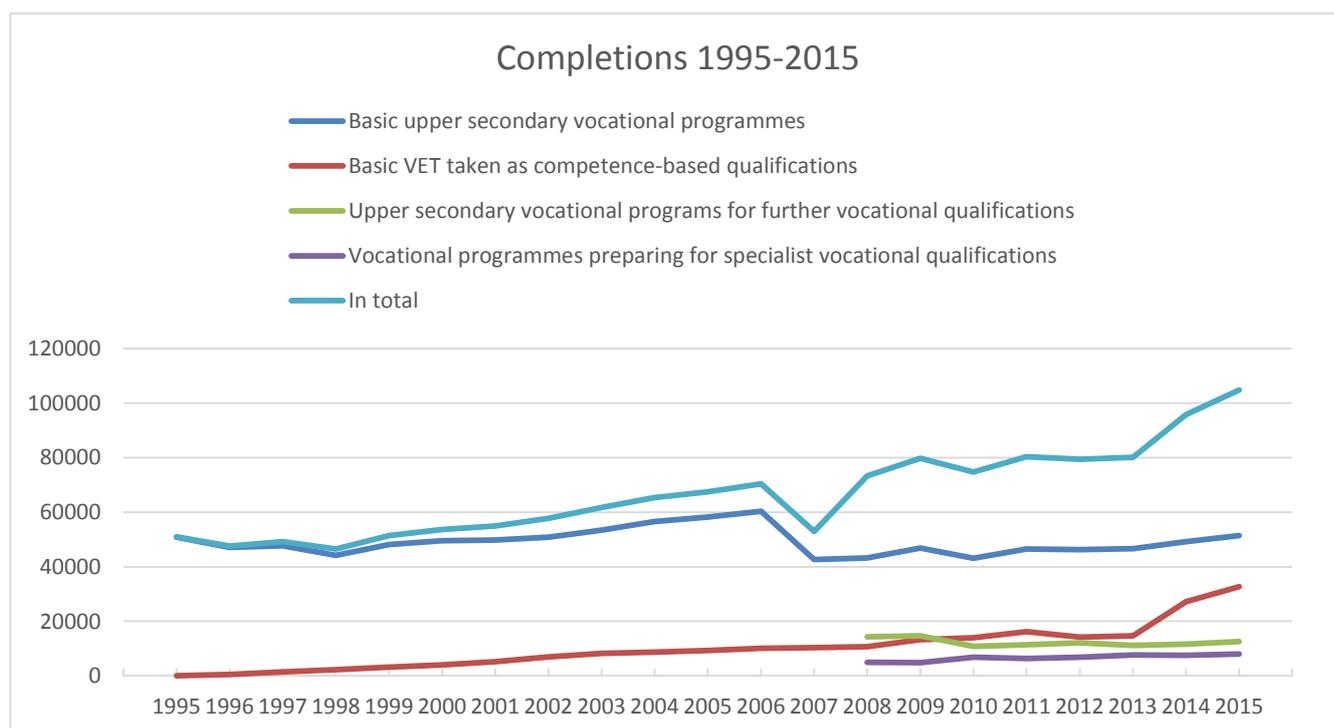


Source: <https://vipunen.fi/en-gb/vocational/Pages/Opiskelijat-ja-tutkinnot.aspx>

VET completions have also been on the rise and more than doubled in the 20 years reviewed in figure 3. A factor that has contributed to the rising completion statistics is the fact that dropping out has decreased during the 2000's. This is positive since drop out levels in VET have been and still are higher than in other educational levels.⁷⁹ However, dropping out has risen again in the last few years.

⁷⁹ <http://nord-vet.dk/indhold/uploads/History-of-Finnish-VET-28062014-final2.pdf>

Figure 3: VET completions in Finland 1995-2015



Source: Statistics Finland

In 2007, there was a reform in vocational degrees⁸⁰. This led to a situation where the students who were about to graduate in 2007 accelerated their graduation to avoid extra studies because of curriculum changes. This resulted in completions peaking in 2006 and accordingly dropping in 2007. After these curriculum changes, competence-based qualifications have driven up the amount of completions. This indicates that the new and more flexible study paths have turned out to be popular.

5. The interplay between external and internal factors shaping VET

The Finnish educational system is built around a strong consensus that all people, regardless of their background or current situation, must have equal access to high-quality education and training. Young people are not just seen as a future resource, but they are supported in their own choices.⁸¹ This places pressure on the VET system to be able to provide the same quality of education for everyone also in the future.

The Finnish national agency for education oversees forecasting the educational needs in both quantitative and qualitative indicators.⁸² ⁸³ The quantitative indicators are estimates of how much the labour demand will be in each sector and the qualitative indicators are estimates of what kind of know-how will be needed in each vocational qualification. These forecasts guide the Finnish VET system. There is forecasting also at the regional and individual college level. According to the National Audit Office of Finland's report⁸⁴, forecasting is more reactive than proactive. There is

⁸⁰ https://karvi.fi/app/uploads/2016/02/KARVI_0116.pdf

⁸¹ http://nord-vet.dk/indhold/uploads/Finnish-country-report-IB_0912_2014.pdf

⁸² http://www.oph.fi/tietopalvelut/ennakointi/koulutus_ja_osaamistarpeiden_ennakointi

⁸³ http://www.oph.fi/download/180544_Ennakoinnin_koontikatsaus.pdf

⁸⁴ https://www.vtv.fi/files/2500/2222011_Koulutus_ja_tyovoimatarpeet_NETTI.PDF

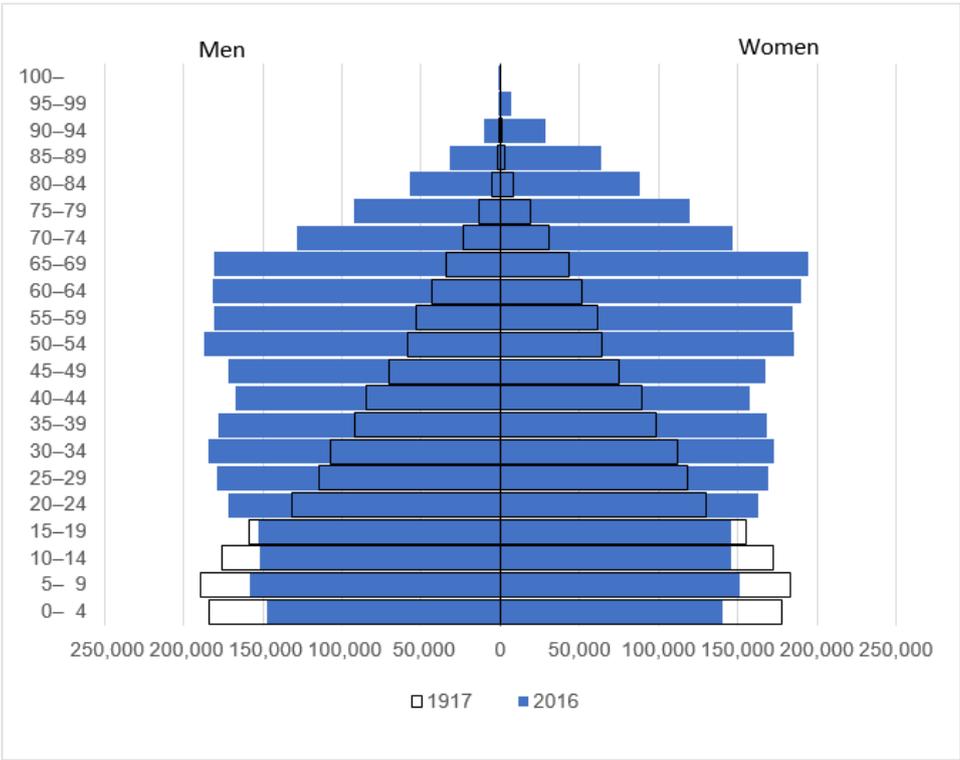
cooperation between industry and the vocational colleges and especially at the adult level, the funding is based more on labour demand.

Forecasting is not used that systematically. For instance, colleges are not following the employment of their graduates. The funding of vocational colleges is being reformed to take the impact of their education better into account. This means that a high employment rate of graduates or more students continuing to further studies will increase the funding of the college. This model of funding will be emphasised more after the large scale reform of vocational colleges in 2018.

The demographic challenge

As can be seen from Figure 4, the aging of the population is one of the key challenges for the Finnish society in the future. The share of working age population is decreasing and a shortage of labour is expected. The population is expected to grow markedly until the year 2040 but the share of working age population is expected to drop from 66 percent to 58 percent.⁸⁵ Some of the challenges that this trend creates are related to filling the jobs of those retiring from the workforce and finding a way to provide for the rapidly growing portion of pensioners in the society.

Figure 4: The age structure of the population on 31 December 2016



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https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Finland:Population:_Demographic_Situation,_Languages_and_Religions

Source: http://www.stat.fi/tup/suoluk/suoluk_vaesto_en.html

Immigration and emigration have both been low which can be seen from the low level of foreign nationals living in Finland. This coupled with the low birth rate of Finland can become an issue in the long run, since the population is ageing fast.

The ageing population leads to the deterioration in the dependency ratio. Because of this, the Finnish government has set a target to raise the employment rate from the current 69 % to 72 %.⁸⁶ This also affects vocational education, even though it is not explicitly stated in the tools for achieving the target. To achieve the target, the skills of the working age population need to match the jobs that are available and this is where vocational education comes in.

The immigration trend is increasing which sets a challenge for integrating immigrants into the Finnish educational system. The number of foreign speaking students has been increasing which has created need for more intensive language training.⁸⁷ Even though Finland has relatively low immigration, the trend has been growing (see Table I). Those immigrants who enter Finland because of humanitarian reasons are often not that well educated which gives the educational system an important role in their integration into the Finnish society.

Table I: Immigration, emigration and net immigration

Year	Immigration	Emigration	Net immigration
1987	9142	8475	667
1995	12222	8957	3265
2000	16895	14311	2584
2005	21355	12369	8986
2010	25636	11905	13731
2013	31941	13898	18048
2016	34905	18082	16823

Source: http://www.stat.fi/tup/suoluk/suoluk_vaesto_en.html

The technological change

Technological development and new innovations often lead to sectoral unemployment and jobs being transferred from one industry into another one. The need for lifelong learning is more important than it has ever been and will continue to become even more significant. This poses a challenge for the VET system since it must keep up with development and be flexible. A lot of current vocational jobs are in danger of being replaced by automation which puts great demand on VET to constantly adapt to the changing environment. As we can be seen from the table below, the significance of traditional manufacturing jobs is decreasing at the same time as more and more jobs are moving to the service sector.

⁸⁶ <http://valtioneuvosto.fi/hallitusohjelman-toteutus/tyollisyys>

⁸⁷ <http://minedu.fi/documents/1410845/4240776/okm5.pdf/c8ba5aef-5038-4be0-80fd-80d75a00f8e7>

Table 2: Employment by industry

Industry (TOL 2008)	2000	2010	2014	2015	2016
	1 000 persons				
Total	2,335	2,447	2,447	2,437	2,448
Agriculture, forestry and fishing; mining and quarrying	146	115	109	109	101
Manufacturing; electricity, gas, steam, air conditioning and water supply; sewerage and waste	473	388	359	352	356
Construction	147	172	169	168	178
Wholesale and retail trade; repair of motor vehicles and motorcycles	277	298	290	284	290
Transportation and storage	152	156	140	137	141
Accommodation and food service activities	77	83	86	87	85
Information and communication	89	95	100	106	101
Financial, insurance and real estate activities	70	71	74	73	75
Professional, scientific and technical activities; administrative and support service activities	184	250	269	277	271
Public administration and defence; compulsory social security	115	117	106	106	111
Education	165	174	180	179	173
Human health and social work activities	326	379	402	404	409
Arts, entertainment and recreation; other service activities	109	139	151	145	148
Industry unknown	6	12	11	9	8

Source: http://tilastokeskus.fi/til/tyti/index_en.html

The new trends in technologies such as big data, artificial intelligence and robotics are a part of the planned reform of the vocational education. An important part of the reform is to digitalise the VET system by incorporating the use of different kinds of digital learning platforms, simulators etc. into education.⁸⁸

There are also pilot projects in vocational colleges aimed at figuring out how to make more use of robotics. The possibilities that big data offers have so far been used less.⁸⁹ All in all, there is an understanding that the new technologies must be considered while planning the future of the VET system. How this is achieved is another question. The ongoing reform in 2018 implicitly relies on the idea that on-the-job learning ensures that students will learn the newest technologies / techniques. The other approach is to implement new technologies as part of the school education but this is suffering from a lack of the funding.

The macroeconomic environment

The macroeconomic environment is mostly visible in VET through public expenditure. Because of the depression in the early 1990s, a lot of public funding was cut from all sectors, including secondary education. After the situation started to improve and the economy started growing again, these cuts in public expenditure were never restored. Instead, more funding has been cut and public expenditure is expected to continue decreasing in the future. VET is facing budget cuts of EUR 190 million at the beginning of 2017.

The macroeconomic problems may have resulted in a shift of the government's education policy which now emphasises faster graduation and entrance to the labour market. This is meant to tackle costs (shorter time at school means less costs) and provide more labour supply to increase employment levels. At the VET level, this can be seen in an increase of acquired skills acceptance.

The structural changes have affected VET. When there have been massive lay-offs in industries such as the paper industry or electronics ones, the vocational colleges have needed to adjust. Sometimes the structural changes have taken place over a long period of time, as in the case of the textile industry, and sometimes they have been more acute such as when factories have been closed.

The VET system has been mainly reactive to the external changes. The major impact has been that of economic fluctuations which has cut funding in the bad years which has been not restored in the good ones. The results are still visible in less contact teaching and less vocational teaching units.

⁸⁸ <http://valtioneuvosto.fi/hallitusohjelman-toteutus/osaaminen/karkihanke2>

⁸⁹ https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/78893/13_2016_Massadata.pdf?sequence=1

The demographic change has been a driving factor when trying to decrease school drop-outs and to integrate immigrants in to Finnish society. There has been success and drop-out rates have fallen. That means that vocational colleges have been able to respond to the falling working age population to some extent by ensuring more of their graduates reach the labour markets. All the trials have not been successful though; for instance, the youth guarantee has not been as effective as assumed.

The major challenge remaining is the technological change. There are experiments on new technology and more on-the-job learning. In general, the adaption of the new technology in vocational education has been weak with insufficient action based on the anticipation much needed skills.

6. Conclusions

Twenty years ago, the most of Finnish VET system was a school based one, and the network of the vocational college was dense. The educational philosophy was based upon the idea that after primary school the students select a vocational or academic path by going to the vocational college or upper secondary school. After basic VET degrees, the student could continue the studies at higher levels of VET, but not at university level. The VET degrees lasted two to three years and contained only little on general subjects such as languages, mathematics, or humanities if there were not considered an essential part of the required vocational qualification.

These aspects have changed over the two decades. Even though the VET is still school – centred, there are more on-the-job-learning and skill demonstrations and other flexible study methods. Through consolidation, many VET units have been closed and the size of colleges has grown. The importance on life-long learning is acknowledged and for that reason all VET degrees now qualifies its holder to enter higher education thereby leaving no dead ends in Finnish educational system.

Over the time, there have been two driving forces behind the development of the Finnish VET system: inclusion and labour market responsiveness. The effort to increase levels of educational attainment and enable lifelong learning, have also influenced the development of the Finnish VET system.

Inclusion has been the central theme in Finnish educational policy since the 1970s. The objective has been that everyone would at least obtain an upper secondary education enabling them to integrate to the labour market. This theme continued in the 1990s when all vocational degrees were expanded to three years in length and qualified their holders for study at the higher level. Back then an objective was set that 70% of each age group should achieve university level education. The goal turned out to be too ambitious but the work in increasing the flow from vocational education to the university level is still ongoing.

Ongoing slow economic growth and high-levels of unemployment has put pressure on the whole educational system to pay more attention to employment. At the same time, funding has been cut. This has put pressure on increasing the effectiveness of all systems. It has been challenging to combine both – better responsiveness to market demand and cuts in expenditure. These have been the drivers behind the reforms to be initiated in 2018.

The core of the reform is to increase on-the-job training, individualise study paths, and have broader degrees. The broader degrees practically mean that the number of different programs will decrease but on the other hand the students have more flexibility in including different modules in their degrees. It can be said that the aspect of life-long learning is also incorporated in the reform. There is a growing emphasis on skills demonstration and acquired skills recognition. These elements have been present in the Finnish VET system since the 1990s but their importance is growing.

A new innovative concept will be introduced as a part the reform which is called the “education contract”. The idea is to develop an educational model in which companies take responsibility for VET, so that most of the degree is carried out while working at a company. This model is close to an apprenticeship but the major difference is that students are not paid as in an apprenticeship.

Naturally, the reform has raised plenty of debate with a critical tone. The criticism mainly stems from the fact that the reform coincides with significant budgets cuts for the VET system. This raises doubts that the reform is not fully intended to only meet working life responsiveness but that the government is going to gain savings from substituting school-based education with that which is company-based. Questions have been raised about the quality assurance aspect of the company training since not all companies have the expertise or the resources to train students. In particular, the trade unions have questioned the concept of the education contract since the risk is that companies could misuse students as free labour. Other social partners have also demanded that the concept should be clarified and the quality of provision guaranteed.

The strength of the Finnish system is the strong emphasis on inclusion and avoidance of dead-ends in individual study paths. The system is designed in a way that everyone has access to education and can continue their studies to the next level. VET has been given plenty of responsibility to create learning opportunities for everyone. The changes in funding have challenged the strengths of the system. For instance, the limited possibility to study towards a new qualification has made switching careers more difficult. The youth guarantee has improved direct access from primary school to upper secondary school, but meanwhile it has limited access for those that have a degree or who have previously dropped out from the upper secondary level. Because of this, the good intentions of decreasing exclusion have increased risk elsewhere. The weakness of the system has partly been the unresponsiveness of the system to needs of the labour market. There are worries of how the quality of training can be assured when the volume of on-the-job training continues to increase. This is underlined by the fact that grading the quality of a skill demonstration depends too much on the subjective view of the evaluator.⁹⁰

The future of the VET system now depends on how the reform will be implemented. If it is successful, the upward trend in VET participation is likely to continue. The individualised study paths will enable a growing number of students to achieve a VET degree and the system will be better able to react to the needs of the labour market. If the threats are realised, there is a risk that declining resources will lead to a situation in which students will be left without guidance and individualisation fails. If such an eventuality materialised, there would be students unable to navigate their way through the complexity of the VET system (c.f. engaging in on-the-job and school-based training). They would drop out and those who managed to get through might not achieve the targeted skill level. Another risk is that with less general study, vocational students may not acquire the skills needed for further studies even though they are formally qualified to do so.

All in all, the challenge is doing more with less resource. The future will reveal how the Finnish VET system will navigate its way through the many challenges it faces.

⁹⁰ https://karvi.fi/publication/page/2/?karvi_education_level=ammattillinen-koulutus There are many evaluation reports of the upper secondary level degrees.

England

Lynn Gambin and Terence Hogarth

I. Introduction

Skill is a derived demand. It derives from a number of inter-related factors including technical and organisational change, globalisation, demographic change and so forth. All countries, to a greater or lesser extent, face the same set of factors driving change in the demand for skills. The effectiveness with which countries respond to the drivers of change will, according to some, explain much about their economic performance. This is explicit in the European Commission's A New Skills Agenda for Europe where the opening paragraph says: "Skills are a pathway to employability and prosperity. With the right skills, people are equipped for good-quality jobs and can fulfil their potential as confident, active citizens. In a fast-changing global economy, skills will to a great extent determine competitiveness and the capacity to drive innovation. They are a pull factor for investment and a catalyst in the virtuous circle of job creation and growth. They are key to social cohesion." (p.1).

In an age when countries have access to the same technologies, skills, however defined, may be the main driver of productivity and competitiveness.⁹¹ If skill is a key differentiator of national competitiveness, then there is a need to understand the way in which effective skill formation takes place. In other words, how do national systems respond to the external economic and social environment to deliver the skills that will not only meet current and projected future business demand, but also confer some form of competitive advantage upon a country? In many respects it is not just about ensuring skill demands are met, but in ensuring that they are met in a way that will allow relatively high value segments of the global market to be captured. There is increasing interest in the role vocational education and training (VET) can play in this regard.

Apparent across many countries is an increasing vocational element being introduced in to education at all levels⁹² and there is now much more policy interest in seeking to promote traditional forms of vocational education and training, such as apprenticeships,⁹³ in bringing about a better match between the demand for, and the supply of, skills. As will be reported in this document, policy makers have focussed on how the VET system can be better matched to meeting skills demand. The approach that has been adopted is very much oriented towards creating a market for VET where the role of the state is very much that of providing the information that will allow employers and learners to make informed decisions about which skills in which to invest. Training providers are funded in a way that requires them to be responsive to the demand side. Whilst the long-term policy goal is essentially that of creating a market for VET, there is an abiding concern amongst policy makers about the risks posed by market failures or the equilibrium at which supply meets demand will be too low (c.f. a low skills equilibrium).

2. What is meant by VET and the national VET system

The VET system in England is not readily defined. A major review of the system undertaken in 2010 made the following observation:

⁹¹ Jorgenson, D. W.; Fraumeni, B. M. (1992). Investment in Education and U.S. Economic Growth. *Scandinavian Journal of Economics*, Vol. 94, Supplement, pp. 51–70.

⁹² Gambin, L. et al. (2016) *Evaluating the Impact of Higher Education Providers' Employability Measures*. London: Quality Assurance Agency

⁹³ European Commission (2016) A New Skills Agenda for Europe (2016) *Working together to strengthen human capital, employability and competitiveness* {SWD(2016) 195 final}

There is no formal definition of 'vocational education' in England, and the term is applied to programmes as different as the highly selective, competitive and demanding apprenticeships offered by large engineering companies and the programmes which recruit highly disaffected young people with extremely low academic achievement. Some submissions to the review were concerned that using the term 'vocational' for the latter was wrong, and damaged the former. Others insisted that low-achievers needed vocational programmes and vocational qualifications and argued for their protection. The many ways in which the term vocational is used reflect the many different purposes which 14-19 education serves and its large and diverse student body. Some qualifications are highly specific, oriented to a particular occupation. Others are more general, and are referred to sometimes as vocationally-related or pre-vocational. Some are very difficult and demanding, others not. A particular qualification can serve different groups, some with a clear career goal and others without, just as for a particular individual, a combination of the highly specific and the highly general may be more appropriate than just one or just the other.

Source: Wolf Review of Vocational Education, 2011, p.23

Given that VET in England has no formal definition there is a need to develop a working or operational definition for the purposes of this study. This might also be the case for other countries too (this issue is returned to below).

In the system – excepting the higher education sector for the time being - one can make a distinction between vocational education delivered to:

- 14-15 year olds in compulsory education;
- 16-19 year olds in the upper-secondary education sector;
- those aged 19-24 working towards vocational qualifications in further education;
- those aged 25 years and older.

These divisions are important not only because they make a distinction between compulsory and post-compulsory education but also because they are related to funding rates which has an impact on training provider behaviour. Public funding levels relate to the subject studied (not the student) and to outcomes (i.e. whether or not the student passes). A further distinction can be made between: (i) full-time / part-time study in vocational schools; and (ii) apprenticeships (the government's preferred vocational pathway).

The VET system is also comprised of a range of qualification awarding bodies and a large number of qualifications. Note that an apprenticeship will typically have a qualification embedded within it. Qualifications and their awarding bodies are regulated centrally by a quasi-autonomous non-governmental body – Ofqual. The VET system, or parts thereof, are periodically subject to sometimes swinging reforms affecting the qualification system, curriculum development, introduction of new qualifications, training providers, funding levels, etc. It is a highly dynamic system. As will be explored in more detail below, there is also a tension in the system between giving training providers autonomy to cater to the needs of the labour markets they serve versus central government wanting to retain control over ensuring that certain levels of educational attainment are achieved (e.g. the target of three million apprenticeship starts between 2015-2020).

Usually a distinction can be made between initial (IVET) and continuing (CVET) forms of VET, but programmes that might be considered as primarily a form of IVET in some countries are typically used as a form of CVET in England. Nowhere is this more apparent than in the case of apprenticeships which, in some sectors of the economy, are a de facto form of CVET where existing employees of companies, sometimes longstanding ones, are trained via apprenticeships. In 2015, 38

per cent of employers offering apprenticeships provided them to existing employees.⁹⁴ Improving the operation of the VET system in England is becoming defined with reference to apprenticeships, the government's preferred means of delivering VET. In large measure because of the relatively high wage returns associated with this form of training – even though it still comprises a small share of overall participation in VET.

The higher education (HE) sector has traditionally offered a range of vocational courses at bachelor level and higher. More recently there has been a policy shift to develop apprenticeships at QCF levels 5+. Whether this means that there will be more apprentices moving from apprenticeships at QCF levels 3 and 4 to those at higher levels is a moot point. At the moment few apprentices make such a transition – around 15 per cent of apprentices moved from FE into HE within seven years of completing their apprenticeship, but only 7 per cent did so at a university.⁹⁵

3. The historical development of VET in England

Much of the policy debate relates to concerns that England is stuck in a low-skills equilibrium: that the demand for skills is weak and the supply-side has responded accordingly such that the system has become locked into a vicious spiral.⁹⁶ This has manifested itself, historically and currently, in relatively low productivity rates compared with countries such as Germany, France and the Netherlands. While this hypothesis was first aired in the late 1980s, its roots stretch back much further. As long ago as 1882 the Royal Commission on Technical Education (the Samuelson Report) diagnosed relatively poor technical skills development as a cause of the UK's eroding competitiveness.⁹⁷ Successive government reports over the course of the 20th century bemoaned the failure to sufficiently develop technical skills amongst school pupils. The Spens Report in 1938, for instance, noted that clever pupils preferred to take the academic route through grammar schools so that they could gain access to professional occupations. The two-tier system of grammar schools with an academic bent and secondary modern schools with a vocational and technical one, effectively confined VET to being 'second best'. Not that much technical or vocational education was necessarily taking place in secondary modern schools, with the Newsom Report in 1963 drawing attention to these schools provided remarkably little of either. Even with the introduction of comprehensive schools in the 1970s, vocational education tended to be limited to woodwork, metalwork, and domestic science. With little in the way of further education being available, if pupils failed to acquire vocational skills in school, then their chances of gaining them thereafter was largely dependent upon provision by their employer.

There was deep concern by the 1970s that insufficient post-secondary education was taking place and that the existing apprenticeship system at the time was not delivering the skills the country needed. During the 1970s the then Manpower Services Commission (MSC) sought to tackle the long running lack of investment in skills by both employers and individuals. Whereas many countries had developed strong apprenticeship systems in the post-1946 period, by the 1960s and 1970s in the UK they were offered by few employers and taken up by few of those leaving compulsory education. They were time served and often used to delay the time at which a young person would move over

⁹⁴ Winterbotham, M, et al. (2016) Apprenticeship Evaluation – Employer Summary Report 2015. BIS Research Paper No. 288

⁹⁵ Joslin, H. and Smith, S. (2013) Progression of Apprentices to Higher Education. BIS Research Paper No.107

⁹⁶ Finegold, D. and D. Soskice (1990). "Britain's failure to train: analysis and prescription" in D. Gleeson (ed.), *Training and its Alternatives*, Open University Press: Buckingham

⁹⁷ Harbourne, D. (2010) "School-based technical and vocational education in England" in Gatsby Foundation (2010) *Technical Education in the 21st Century*.<http://www.gatsby.org.uk/uploads/education/reports/pdf/7-technician-conference-report.pdf>

from apprenticeship to adult wage-rates. So, from the 1970s onwards, the MSC set in train a radical overhaul of the skills system.⁹⁸

A range of vocational qualifications were introduced that could be delivered by further education (FE) colleges. This meant that vocational education and training was no longer as dependent as it once was upon employers to deliver it. Moreover, these vocational qualifications would be competence based – as soon as someone could demonstrate their competence they would be accredited – thereby potentially increasing the efficiency with which skills were delivered. And by publicly funding VET in FE, employers were incentivised to engage with the new system since they were potentially being offered a ‘free good’. It was this development, more than any other, that saw the provision of apprenticeships decline even further during the 1970s and 1980s.

Concerns, however, persisted that the skills system was not sufficiently attuned to delivering those skills that would drive up competitiveness and provide young people with employment. During much of the 1980s, youth unemployment was a persistent problem. So there was a return to apprenticeships with the launch of the Modern Apprenticeships programme in 1994. Government had become convinced that by combining training with work that included the award of a vocational qualification, an improved system of VET would be available for young people. Employers were to be at the centre of the new system. By allowing employers – via sector skills councils – to be involved in the design of apprenticeships and vocational qualifications more generally there was a better chance that they would meet labour market demand. During the final decades of the 20th century there were substantial increases in levels of participation in VET by both learners and employers. Despite this, concerns remained that demand – in the sense that skills supply was responsive to a real need in the economy – was not being met. This was seen as a supply-side problem because – as outlined in the Leitch Review⁹⁹ - the VET system was seen to be dominated by the interests of training providers. From this point on there was more emphasis on using funding mechanisms to ensure that supply met demand. It should be noted that the government at the time was not quite ready to allow the market to determine the overall level of demand for skills. There were qualification targets, set by government, to be achieved (though subsequently abolished). This was because, ostensibly, the level of demand for skills needed to be increased in the first instance.¹⁰⁰

The longer-term plan, however, was that of equipping employers and learners with information about the value attached to various qualifications and training programmes, as well as the quality of training provision, and on the basis of this they could make informed investment decisions. Essentially, funding would follow the learner and employer rather than providers being funded directly. And there was an expectation that much more training would be delivered through apprenticeships. Employers could develop their own apprenticeships (c.f. Trailblazers – employer-led groups developing apprenticeship standards)¹⁰¹ and they would be given more purchasing power with respect to training providers (c.f. employer routed funding). Employers would have a much greater say in the design and structure of the Apprenticeships, but in return they would be expected to meet a greater share of the overall cost of the apprenticeship training. The rationale being that if employers have more of a financial stake in the training they are investing in and delivering, then they

⁹⁸ Haxby, P. and Parkes, D. (1989) "Apprenticeship in the United Kingdom: From ITBs to YTS". European Journal of Education, Vol. 24, No. 2, pp. 167–181

⁹⁹ HM Treasury (2006). Leitch Review of Skills: Prosperity for all in the global economy - world class skills - Final Report. London: HM Treasury

¹⁰⁰ Keep, E. (2006) 'State control of the English VET system – playing with the biggest trainset in the world'. Journal of Vocational Education and Training, Vol 58, No 1, pp47–64.

¹⁰¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/487350/BIS-15-632-apprenticeships-guidance-for-trailblazers-december-2015.pdf

are more likely to be ensure that it meets their needs.¹⁰² Whether employers will be willing to bear a greater share of the overall cost is an interesting question. Employers are not always aware of the amount of public subsidy they receive when they take on apprentice so have little idea of what co-investment might look like in practice.¹⁰³

UK policy, certainly since the election of a Conservative Government in 1979, has been very much based on seeking market-based solutions to various public policy issues, and for markets to work there needs to be competition. Consistent with this approach has been a desire to see public policy limited to that of making sure that market failures are avoided. This is a gross over simplification of the public policy mix that has been pursued since 1979 but it captures the essence of what has been pursued over the past 30 to 40 years. In relation to VET, the role of public policy has been, amongst other things, to:

- underwrite the costs of training faced by young people (to overcome the difficulties young people face in meeting the costs of their training);
- provide a VET infrastructure including the regulation of qualifications and awarding bodies;
- subsidise the costs faced by employers in funding young people via apprenticeships (to fund general training that employers typically are unprepared to fund); and
- provide information on the returns to completing various qualifications (to overcome the information market failure) and ensure that people have access to that information.

It is explicitly stated that it is not the role of public policy to tell individuals or employers which skills to invest in; rather it is the role of the market to determine that outcome. As noted above, the Leitch Review wanted to create a demand led system whereby employers articulated their demand for skills which local training providers would respond to, subject to the quality of teaching and the qualifications the providers offered meeting minimum standards set by government agencies. Training providers would be funded according to the number of learners they were able to attract to particular courses rather than receiving core funding which they could then use to attract learners. But government, until relatively recently, wanted to retain targets to ensure that a certain percentage of people were trained to a given level.

It should be noted that there is also a market for qualifications / awarding bodies. Training providers have a degree of choice over which qualification or awarding body to use when they are considering delivering a course in a particular subject. This is one of the reasons behind the large number of qualifications that are on offer in the VET system. There is also competition between training providers with consumers (learners / employers) having a degree of choice between which organisation they select.¹⁰⁴ The very large number of vocational qualifications available has been subject to much criticism (see below).¹⁰⁵

Funding mechanisms have proven to be one of the main means used in public policy to ensure that skills supply meets demand. Creating a market for VET requires individuals and employers to regard skills as an investment good. Consumer theory indicates that purchasers will be more likely to make rational choices if they bear the cost of any choice. But if they are to make that choice they need a

¹⁰² Banks, C. (2010) Independent review of fees and co-funding in further education in England: co-investment in the skills of the future. Coventry: Skills Funding Agency

¹⁰³ Hogarth, T., Adams, L., Gambin, L., Garnett, E., Winterbotham, M. (2014) Employer Routed Funding: Employer Responses to Funding Reform, BIS Research Paper number 161; Keep, E. (2015) Unlocking Workplace Skills: what is the role for employers? CIPD Policy Report

¹⁰⁴ Frontier Economics (2016) Understanding the Further Education Market in England. BIS Research Paper No.296

¹⁰⁵ Wolf, A. (2011) Review of Vocational Education. London: DfE

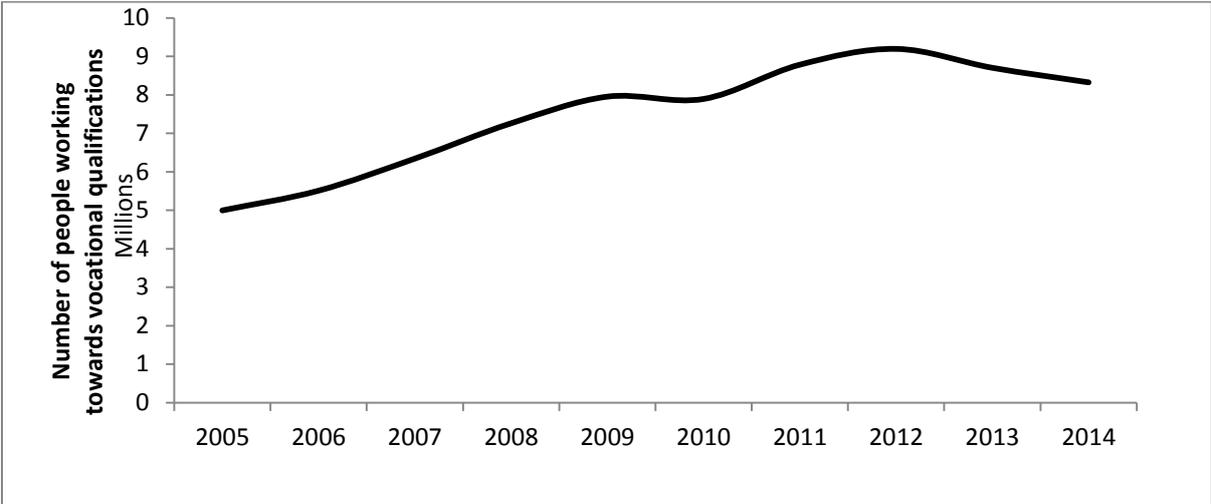
full set of information about the likely future returns from making any investment. Hence the emphasis placed on providing labour market information (LMI) on the returns to investing in various vocational qualifications and skills. There is also an increasing emphasis – in part resulting from the desire to reduce the current account deficit but also reflecting the general direction of travel – on the beneficiaries of VET bearing proportionately more its cost. Hence the introduction of training loans for those aged over 24 years and the requirement that employers meet proportionately more of the overall cost of apprenticeships (via employer routed funding).¹⁰⁶ In relation to employers making a cash-contribution, there is an expectation that they will achieve better value for money from training providers.

In return for employers being expected to meet proportionately more of the overall cost of apprenticeship training, they have been granted more influence over the content of training. Hence through their representative organisations – sector skills councils – they are able to develop apprenticeship standards – i.e. the training requirement related to a specific occupation. The upshot of this may be a large number of apprenticeship standards being available (at the moment there are around 220 apprenticeship frameworks). It is interesting in this respect that Wolf, in her review of VET, said that there were many thousands of qualifications, awarded by many different organisations, the value of which was difficult to gauge, though the suspicion was that many delivered little value to those studying them, in part because they were over narrowly focused on a particular occupation that the learner subsequently did not enter.¹⁰⁷ Moreover, the report notes that efforts to cull the number of qualifications on offer had often proved difficult to achieve.

4. Changes in VET Enrolments

Whilst it is possible, though far from easy, to outline the broad contours of the VET system, it is difficult to give an indication of its scale. If the VET system is defined with reference to people participating in the study of vocational qualifications then this gives an approximation of its size (see Figure 1). But this will include people of all ages. Approximately 40 per cent of those working towards completion of a vocational qualification are in the 15-24 age group – which gives a proxy measure of those likely to be engaged in IVET. It is certainly the case that the preferred route through upper secondary education is the general / academic one rather than vocational; it is the former that is associated with, other things being equal, higher employment and wage returns.

Figure 1: Participation in vocational education in England 2005 - 2015

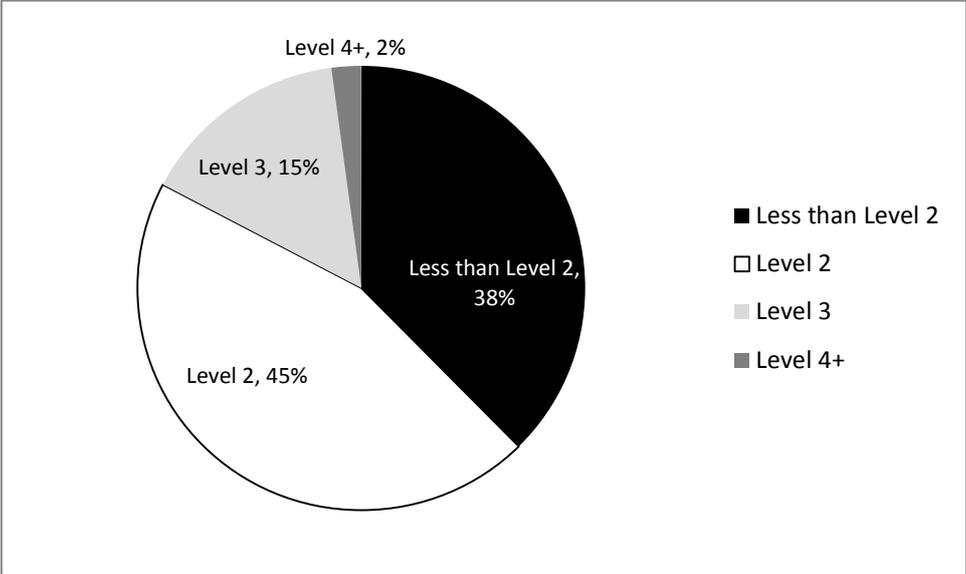


¹⁰⁶ Hogarth, T., Adams, L., Gambin, L., Garnett, E., and Winterbotham, M. (2014) Employer Routed Funding: Employer Responses to Funding Reform, BIS Research Paper No. 161
¹⁰⁷ Wolf, A. (2011) Review of Vocational of Vocational Education. London: DfE

Source: DfE Vocational Qualifications Participation Data

Much of the attainment in vocational qualifications is typically at a low level: most being lower than QCF level 3 (see Figure 2).

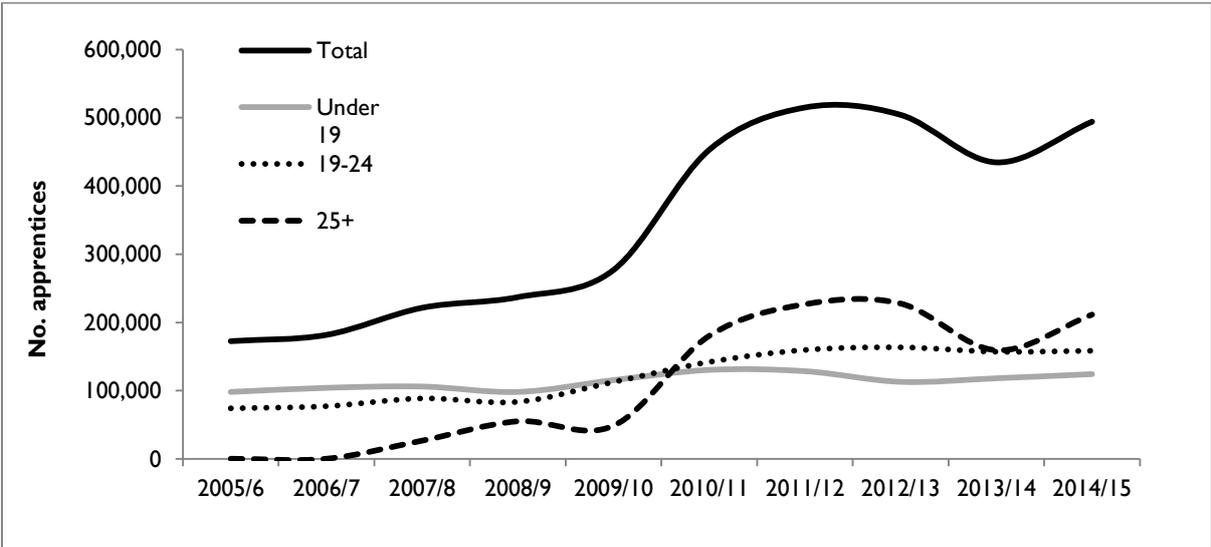
Figure 2: Participation in vocational education in England by QCF Level, 2014/5



Source: DfE Vocational Qualifications Participation Data

The evidence in relation to apprenticeships reveals that it has proven difficult to push up demand (see Figure 3). Increasingly, the target group for apprentices has been those aged 24 years and under and this is where public funding has been concentrated. But growth in apprenticeship starts has been driven in large part by those aged 25 years and over, many of whom were already sometimes longstanding employees of the company that was about to train them. The concern here is that apprenticeships have been used as a human resource management practice designed to improve recruitment and retention and drive-up employee motivation rather than as a skills intervention.

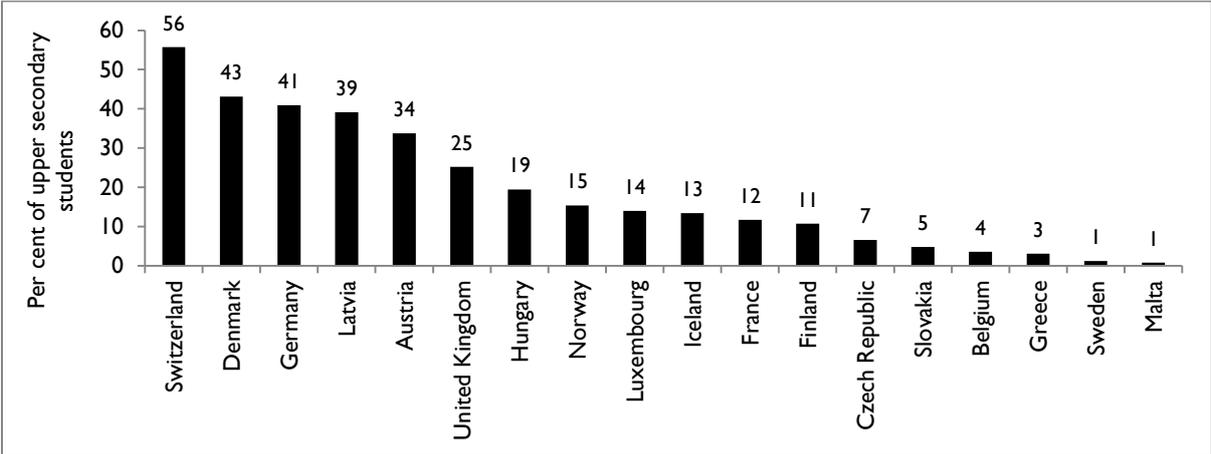
Figure 3: Apprenticeship Starts in England, 2005 to 2015



Source: Statistical First Release – Apprenticeship Starts by age

In international comparison, the extent to which people are engaged in workplace-based learning suggests that England is rather middling on this measure (see Figure 4). The general picture to emerge is that in upper secondary education that most students take the general route, and where they take the vocational one, they are more likely to be on a full- or part-time course in a vocational school. The response to the above findings led, in 2015, to the announcement that an apprenticeship levy would be introduced whereby all employers with a payroll over £3m would pay 0.5 per cent of that payroll in the form of a levy which they could reclaim depending upon how many apprentices they were prepared to train.

Figure 4: Percentage of upper secondary school in work-based programmes



Source: Pupils enrolled in upper secondary education by programme orientation, sex, type of institution and intensity of participation [educ_uae_enrs04]

5. The interplay between external and the internal factors shaping VET

The above sections have outlined how the VET system, and the policies that have shaped its development, have changed over the recent past. How that system has been able to respond to range of challenges is set out below, concentrating on how it has responded to demographic and economic pressures.

The demographic challenge

One of the factors driving change is the changing age structure of the population (i.e. its ageing of the population). There were dire warnings in the 1980s of a demographic time bomb given the ageing of the population structure, but this has been offset to some degree by immigration to the UK which has increased the percentage of younger people in the population.¹⁰⁸ Nevertheless, as Figure 5 demonstrates, the age structure of the population in the future will be one with, proportionately, more older people. Though the pension age has risen to 68 years, and is perhaps likely to continue to rise further, if life expectancy continues to increase, it is expected that the dependency ratio between retired people and those still economically active will increase.

The impact the changing demographic structure will have on VET is potentially fourfold.

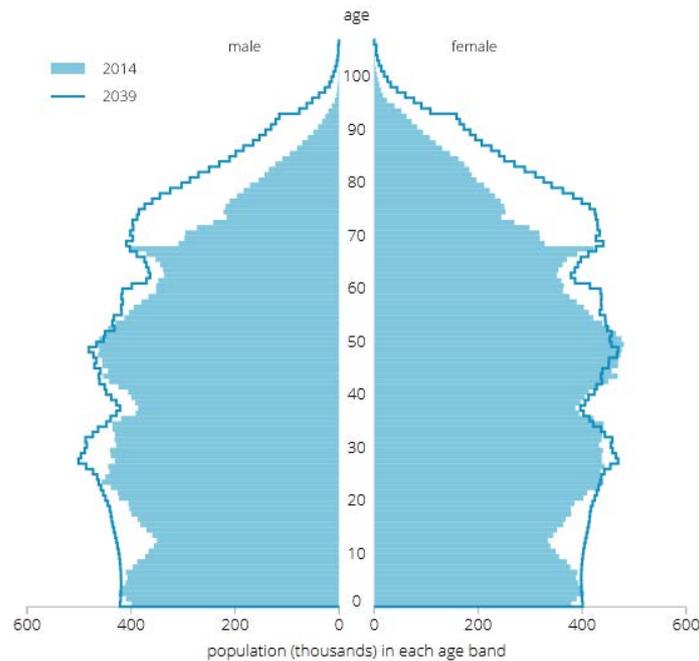
¹⁰⁸ CIPD (2015) Avoiding the demographic crunch: Labour supply and the ageing workforce <http://www.cipd.co.uk/binaries/avoiding-the-demographic-crunch-labour-supply-and-ageing-workforce.pdf>

1. The need to fill those jobs which people retiring from the labour market will exit. It has been observed that the replacement demands even in jobs where the overall number of people is expected to decline over the next 10 years can be high.
2. Being able to equip people with lifelong learning in their later years to prevent their skills becoming obsolescent. The skills people acquire in what might be referred to as their initial, initial vocational education in their early years is even less likely than in the past to carry them through the labour market to their retirement. This is because the age of final exit from the labour market is expected to increase.
3. There are questions about the future financial well-being of older people which might induce them to continue working beyond the age at which they become eligible for a state pension. This might place pressure on the employment and VET systems to equip people with the skills that will grant them access to jobs that older people – especially at the upper end of the age distribution of the economically active – are willing to take.
4. The demand for people to work in jobs that related to the ageing of the workforce (including social care jobs many of which are relatively poorly paid in countries such as England).

These types of issue are being dealt with generally through age-discrimination legislation, but more specifically in relation to VET they are being addressed through provision of labour market information and granting access to publicly funded VET programmes, such as apprenticeship, to people of all ages. As noted above, publicly funded programmes such as apprenticeships are open to people of all ages. While the government has a preference for public funding to be directed towards younger people, this does not preclude older people engaging in public programmes as well. As Figure 3 above demonstrates, many of those starting apprenticeships are aged 25 years and over. Arguably, however, the migration of young skilled workers to the UK has eased many of the pressures that would otherwise bear down on the labour market and VET system.

As the next sections will show, the real pressure on policy makers has been to create a sufficiently large tranche of relatively skilled, high waged employment. Whilst this is a demand side policy, it has created pressures on the VET system to provide high value skills, increasingly through the apprenticeship system.

Figure 5: Age structure of UK population, mid-2014 and mid-2039



Source: Office of National Statistics National Population Projections: 2014-based Statistical Bulletin

Technological change and the hollowing out of the labour market

Technological change is generally seen as having a positive impact upon employment though it does tend to give rise to new forms of employment and thereby skill needs.¹⁰⁹ As explained above, an abiding concern of policy makers has been the flexibility with which the VET system has been able to adapt to changes in skill demand. More recently, the debate has tended to regard technological change as having a less benign impact on employment and skills. First there has been the debate about robots and the extent to which they will substitute for employment at a rate which outstrips their positive impact on economic growth to create new jobs.¹¹⁰ The risk here is that robots (essentially an advanced form of automation) reduce the demand for good jobs whilst leaving humans to undertake relatively low skilled, low paid ones.¹¹¹ In other words, there is a de-skilling effect. To some extent this is a recasting of the task-based technological change explanation where technological change is seen to have most impact on routine jobs, which do not require their incumbents to respond to outside stimuli. Accordingly their jobs can be replaced by technology, which automates the tasks they once carried out.¹¹² Goos and Manning observed that routine jobs, susceptible to being replaced by automation, are typically found in the middle of the occupational

¹⁰⁹ Simon, H. A. (1965) *The Shape of Automation (for Men and Management)* New York: Harper and Row

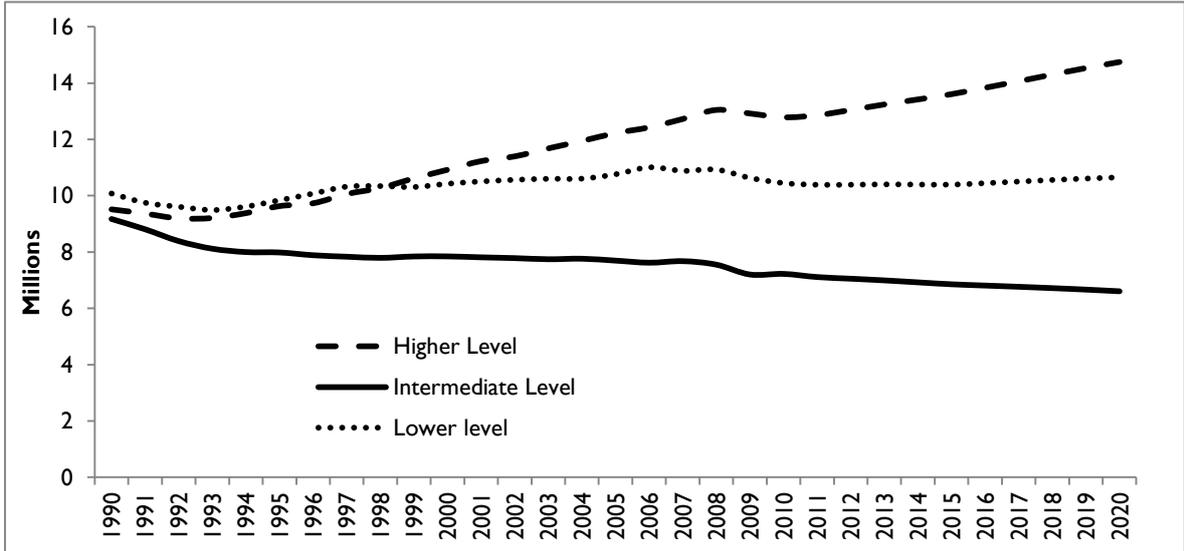
¹¹⁰ Brynjolfsson, E., McAfee, D. (2012) *Race against the Machine: How the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy*, Lexington, MA: Digital Frontier Press

¹¹¹ Freeman, R.M. (2015) *Who owns the robots rules the world Workers can benefit from technology that substitutes robots or other machines for their work by owning part of the capital that replaces them.* IZA World of Work.

¹¹² Autor, D., Levy, F. and Murnane, R. (2003). The skill content of recent technological change: an experimental exploration. *Quarterly Journal of Economics*. 118(4), 1279-1333

structure: administrative jobs and skilled production jobs.¹¹³ Higher level skilled jobs which require their incumbents to utilise cognitive skills cannot be so readily substituted by automation, and lower skilled jobs, such as those found in hospitality, require their incumbents to interact with customers such that these jobs too are not readily substituted by automation. The impact of this is to bring about a hollowing out of the skill / occupational structure that sees a growth in high skill jobs and low skill ones, but not much in between (see Figure 6). This appears to be a phenomenon that is more apparent in the UK and USA than other countries in the EU.¹¹⁴

Figure 6: Change in the occupational structure, 1990-2005



Source: Working Futures Database

The implication of the above is that the demand for VET – notwithstanding replacement demands – becomes bifurcated. Rather than being seen as a natural consequence of technical change, the hollowing out of the labour market may result from the combination of industrial and employment policy. And it is apparent that there are attempts to redress this in some way by encouraging employment growth in the middle layer of the occupational structure through increasing the number of technicians (i.e. people working in para-legal occupations). Employment at this level is seen as important to boosting labour productivity.¹¹⁵ Hence there are pressures on the VET system to provide more training at an intermediate level (equivalent to upper secondary education), especially through apprenticeships. Accordingly, there has been the creation of apprenticeship standards at Level 4 (sub-bachelor degree level). The flexible labour market can make employers risk averse when it comes to making investments in intermediate level skills. The structure of training at this level inevitably leaves employers with a net cost at the end of the formal training period, but in a flexible labour market they are not guaranteed of appropriating the return on that investment.¹¹⁶ Accordingly they are reluctant to make the investment unless they are sure they can retain the

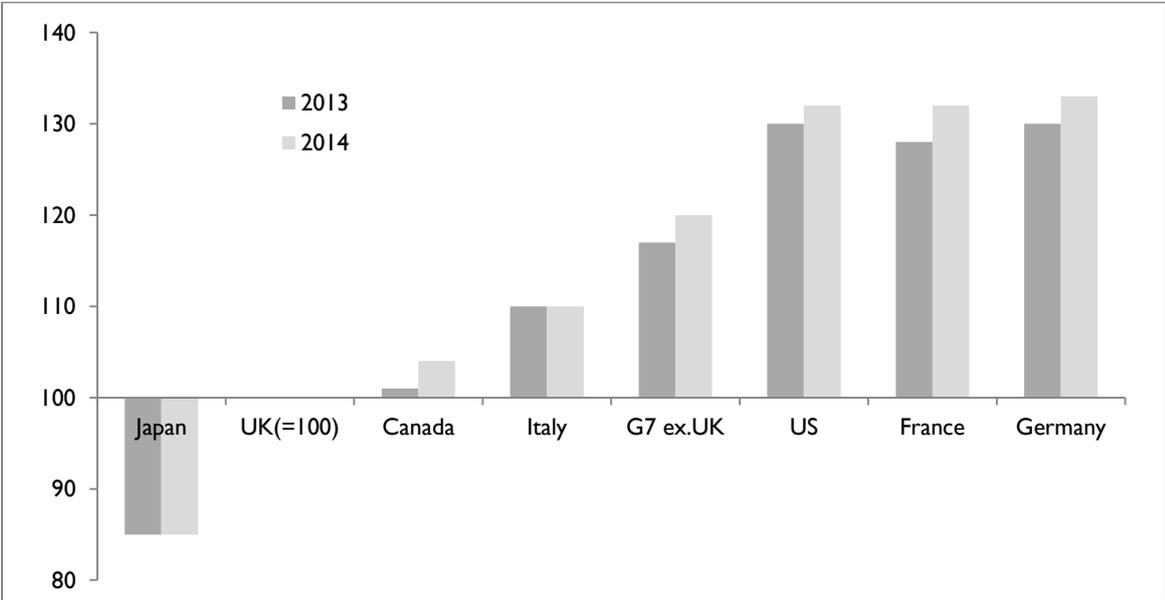
¹¹³ Goos, M. and Manning, A. (2007).“Lousy and lovely jobs.The rising polarization of work in Britain”. The Review of Economics and Statistics, 89(1), 118-133.
¹¹⁴ Eurofound (2016).What do Europeans do at work? A task-based analysis: European Jobs Monitor 2016, Publications Office of the European Union, Luxembourg
¹¹⁵ Report of the Independent Panel on Technical Education (Sainsbury Review). https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536046/Report_of_the_Independent_Panel_on_Technical_Education.pdf
¹¹⁶ Gambin L. and T. Hogarth (2016) 'The Costs and Benefits of Apprenticeships to Employers: Policy, Funding and Training Quality', in Human Resource Management, Innovation and Performance, Editors: H Shipton P Budhwar P Sparrow A Brown, Palgrave Macmillan

former apprentice / trainee. The policy response is to provide more public funding to employers to train at this level, but even then the employer is expected to bear some of the risk of the training investment under the rules regarding co-funding of apprenticeships. The policy levers available are those of preferential funding and the relay of information to would-be trainees and employers about the economic benefits of investing in training at this level.

The productivity challenge

Much of the current skills debate is concerned with raising productivity levels. The immediate outcome of the economic crisis was to see the UK’s productivity levels fall against many of its competitors. As will be explained below, many of the reforms that have been unleashed upon the VET system have drawn attention to the UK’s lack of competitiveness compared with many countries such as Germany, the USA, and France. In the post-crisis period, productivity declined; as shown in Figure 7, productivity per hour compares relatively poorly with many G7 countries (it is lower than that of the rest of the G7 by 20 percentage points). This appears to be a feature of the post-recession period given that compared with many countries productivity improved over the 2000s in the UK.

Figure 7: Productivity comparisons with selected G7 countries (UK = 100)



Source: ONS Productivity Statistics Q2 2015

The causes of the decline in relative productivity are complex, but central to the government’s response has been the reform of the skills system and the introduction of an apprenticeship levy to drive up demand for this form of VET.¹¹⁷ Part of the concern is that the VET system as currently configured produces too many people with the qualifications / skills that do not meet the demands of the labour market.¹¹⁸ Consequently, public funding is being wasted. So an increasing emphasis is being placed on vocationalism with particular reference to increasing the number of people engaged in apprenticeships. As noted above, the rationale is that by persuading employers to contribute to

¹¹⁷ HM Treasury (2015) Fixing the Foundations: Creating a more prosperous nation. London: HM Treasury Cm9098

¹¹⁸ Wolf, A. (2011) Review of Vocational Education. London: DfEReview of Vocational of Vocational Education. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/180504/DFE-00031-2011.pdf.

the costs of vocational training, there is a guarantee that training will be more closely tied to meeting business needs.

More nuanced analyses of the extent of skills mismatch using a range of indicators – including relative wage real wage growth, occupational wage differentials, employee and employer reports of skills shortages / surpluses – suggests that there are relatively few skill shortages in the UK.¹¹⁹ And this offers a clue to major challenge facing the VET system: the long-run economic development of the economy is one that has allowed the education and training system to readily meet the demand for skills. The key problem policy makers have identified is that demand is insufficiently high – c.f. the low skills equilibrium argument.

Reduced public expenditure on VET

The macroeconomic situation has had a twofold impact on the VET system:

1. the economic crisis has potentially dampened the demand for skills generally and posed particular problems to young people making the transition from school to work; and
2. the need to reduce public expenditure has resulted in real term reductions in public funding for the further education sector.

Growth has struggled to pick up in the post economic crisis period, but this has not had the impact on employment that was initially feared when the economy was seen to shrink by six per cent in 2007/8 in the England. It would appear that employers were reluctant to make people redundant because of fears over recovering lost skills when the economy recovered and because, in a relatively flexible labour market, wages were able to adjust more readily than they had been able to do so in previous recessions. But it did result in a situation where employers sometimes had a surplus of labour or, where they were recruiting, were able to readily select from relatively experienced applicants.¹²⁰ This all conspired to reduce the opportunities for young people (i.e. the real price of hiring a young person increased relative to that of recruiting an experienced one). Given that growth in the economy has remained sluggish in the period up to 2016 – and considerable uncertainties persist about the future – this has placed a considerable onus on policy makers to ensure that young people are engaged in training activities that are likely to confer upon them skills which are of value in the labour market. A concern has been, and continues to be, that too many vocational qualifications offer pupils / students a poor return. The initial response of policy has been to place more emphasis upon apprenticeships and using funding mechanisms to ensure that the supply of skills meets demand. But this needs be seen in the context of less public funding being made available for VET.¹²¹ It has been observed that the adult skills budget – i.e. that available to train those aged 19 years and over – grew in real terms during the economy's boom years during the early 2000s boom years, was static from 2004 to 2010, then received a single year boost in 2010, before falling such that by 2012 it was below its 2002 level. The government has signalled its intention to further reduce public funding for adult skills as part of its overall package of reforms to reduce the current account deficit but, at the same time, wants to raise skill levels. Inevitably this means that the costs of training will be passed on to employers and learners. The impact of this on training volumes remains to be seen.

¹¹⁹ Gambin L, Hogarth T, Murphy L, Spreadbury K, Warhurst C, Winterbotham M (2016) 'Research to understand the extent, nature and impact of skills mismatches in the economy', BIS Research Paper number 265

¹²⁰ Hogarth, T., Owen, D.O., Gambin, L., Hasluck, C., . Lyolette, C. and Casey, B. (2009) The Equality Impacts of the Current Recession, Equality and Human Rights Commission Report No.47, Equality and Human Rights Commission (EHRC): Manchester

¹²¹ Wolf, A. (2015) Heading for the precipice: Can further and higher education funding policies be sustained? London: Kings College

6. Conclusion

The example of England is that of a market-based system, underwritten by minimum standards established by public policy, which is expected to respond to various exogenous stimuli. It is apparent that the provision of LMI and the use of funding mechanisms are designed to ensure that the system is responsive to labour market demand. If the VET system is more responsive to labour market demand – reflected in relatively high returns to learners / apprentices – then there is an expectation that this will increase the attractiveness of VET to both individuals and employers. But at the moment, there is a preference from young people to take the general / academic pathway through post-compulsory education and a reluctance of employers to invest in apprenticeships. So, on the one hand, the VET system is configured so that it is responsive to various exogenous factors – so long as the market is able to adequately signal demand – but on the other, it is less clear how the system might increase the labour market demand for publicly funded VET (or at least with the speed policy makers might want).

Clearly other countries have developed different policy approaches. Sometimes this reflects the particular impact that the exogenous factors have had upon their economies and labour markets (e.g. the impact of the financial crisis and its continuing repercussions affected some countries more than others), but it will also indicate particular policy preferences that are deep rooted within a country (e.g. the preference for market based solutions in England). So one can begin to identify the extent to which the various common factors affect a particular country and group them accordingly, and then further group them according to the particular policy mixes that they have adopted.

The discussion provided above has somewhat skirted the issue of CVET. Given the emphasis on lifelong learning in the context of increased life expectancy and time likely to be spent in the labour market, this is an important issue. Aside from active labour market policies designed to assist those out-of-work to enter employment, this is often regarded as a largely private matter. It is notable that in the case of England, the adult skills budget (for training those aged 19 years and over) has been reduced in real terms with much of the budget targeted on providing relatively low level functional skills to allow people to be work-ready. In some countries a secular decline in CVET has been observed, so an important issue is how policy has been used – if at all – to stimulate this form of training in response to various external factors that shape the demand for skills in the labour market.

Greece

Viviane Galata

I. Introduction

The VET system in Greece has been largely influenced by EU relevant policies and developed with the support of respective European funding. It is characterised by frequent and regular legislation reflecting the political decisions adopted to meet EU priorities in the field of VET. In this context, VET in Greece has been conceptualised through the two different subsystems of initial vocational training and continuing vocational training, which have been related since the enactment of Law 3879/2010 under the lifelong learning perspective. While initial vocational training seems to have been better organised due to the historical development of technical and vocational education in Greece and the official recognition of certificates, continuing vocational training has not been developed in an organised and coordinated manner that could lead to qualifications correlated to levels of the national qualifications framework. This explains the dominating position of the initial vocational training in the preferences of young people and the re-emergence of the importance of apprenticeships and work-based training programs within Law 4186/2013 for their professional rehabilitation.

VET, however, remains the second choice for most young people due to the strong demand for general education and university studies and the contempt for technical and manual work. Although several reforms have been encountered in the content and the targeting of the institutional framework of VET to improve the coordination functions of VET systems and their link to employment, policy choices have not been based and responded to the productive activity in Greece and labour market needs. As a result, the absence of an integrated VET policy clearly related with the jobs offered in the Greek labour market has led vocational training programmes to act as a substitute of the employment policy. Currently, the debate on the role of vocational education and training is being renewed in view of its contribution to the fight against unemployment, and notably youth unemployment, as well as it being able to respond to the increased demands of social protection generated by the crisis. New elements have been introduced in this debate concerning the strengthening of the social role of VET, the importance of technology and innovation, and the necessary redefinition of all types and forms of academic and vocational specialisation to limit emigration flows of highly educated individuals.

2. What is meant by VET and the national VET system

The VET system in Greece has been based on the two subsystems of initial vocational training and continuing vocational training, which were treated separately by the national legislation for several years since 1992 until 2010. The legal framework for the provision of VET in Greece is set by different laws defining and regulating separately initial vocational training and continuing vocational training. Hence, the enlargement of the concept of VET with different policy priorities and custom targeting has affected policies and institutional structures in Greece. For instance, Laws 2009/1992 and 3191/2003 regulating initial vocational training were focused on the establishment of a National System for Vocational Education and Training and a National System for Linking Vocational Education and Training to Employment. On the other side, Laws 2294/1994 and 2434/1996, regulating continuing vocational training were focused on work related issues, implementation of training programmes for employed and unemployed people, accreditation of vocational training centres, and

establishment of a special account for Employment and Vocational Training as a source of private funding for training.¹²²

Since the enactment of Law 3879/2010 on Lifelong Learning, these two components of VET, initial and continuing vocational training, have been treated in the framework of the national holistic strategy on lifelong learning. Within Law 3879/2010, a serious attempt has been made to relate all forms of vocational education and training under the lifelong learning perspective by identifying alternative paths, networking lifelong learning institutions, and ensuring transparency and quality to achieve the interconnection of lifelong learning to employment.¹²³ That said, the term VET is mostly defined through the provision of distinct definitions of “initial vocational training” and “continuing vocational training”, “formal education” and “non-formal education” placed under the lifelong learning perspective and the relevant national strategy.

According to the definitions of Law 3879/2010, initial vocational training provides basic professional knowledge, abilities and skills in specialised disciplines for the integration, reintegration, vocational mobility and the advancement of human resources in the labour market, while continuing vocational training complements, updates or upgrades knowledge, abilities and skills, gained from the vocational education systems and initial vocational training, or professional experience for the integration or reintegration in the labour market, ensuring employment and the professional and personal development. Moreover, formal education leads to the acquisition of certificates recognised nationally by public authorities, and is part of the scheduled education range, including general adult formal education. Non-formal education is provided in an organised framework outside the formal education system, which can lead to nationally recognised qualifications and includes initial vocational training, continuous vocational training, and adult education.¹²⁴

Another major review of the system under the lifelong learning perspective has been initiated with Law 4186/2013 on secondary education, which aims to ensure the modernisation of VET and strengthen its work-based component by focusing on initial vocational education within the formal education system and apprenticeships.¹²⁵ In the same direction, the Memorandum of Understanding for a three-year ESM programme and the relevant Law 4336/2015 provide specific requirements for the modernisation and expansion of VET and the increase of apprenticeships, which include the legislation of a modern quality framework for VET and apprenticeships, the establishment of a system to identify skills needs and a process for upgrading programmes and accreditation, the provision of an integrated implementation plan of apprenticeships and a greater use of private financing through public-private partnerships.¹²⁶ Additionally, the National Strategic Framework for VET prescribes the vision for upgrading VET structured in three pillars: (i) strengthening the social role of VET in

¹²² Ministry of Education and Religious Affairs, Organisation for Vocational Education and Training - OEEK (2008). Greece. Overview of the Vocational Education and Training System. CEDEFOP – RerferNet Greece.

¹²³ Law 3879/2010 Development of Lifelong Learning and other provisions, Official Government Gazette No. 163/21.9.2010, available at the website of the General Secretariat for Lifelong Learning <http://www.gsae.edu.gr/en/>.

¹²⁴ Article 2 "Definitions" of Law 3879/2010 Development of Lifelong Learning and other provisions, Official Government Gazette No. 163/21.9.2010.

¹²⁵ Law 4186/2013 Restructuring of secondary education and other provision, Official Government Gazette No. 193/17.9.2013.

¹²⁶ Memorandum of Understanding between the European Commission (acting on behalf of the European stability mechanism), the Hellenic Republic and the Bank of Greece for a three-year ESM programme for Greece, 19 August 2015. Also, Law 4336/2015 Pension provisions - Ratification of Schedule Contract Financial Assistance from the European Stability Mechanism and arrangements for the implementation of the Funding Agreement, Official Government Gazette No. A 94/14.8.2015.

order to reduce social inequalities, (ii) enhancing the working role of VET and (iii) linking VET with the overall development planning of the country.¹²⁷

According to the new Law 4186/2013, there are two options in the general upper secondary education:

3. initial vocational education within the formal education system in the second cycle of secondary education at Vocational Upper Secondary Schools (EPAL) and Vocational Schools (EPAS) of the Manpower Employment Organisation (OAED) for young people aged 16-23 years, who have graduated either from the first cycle of secondary education to attend EPAL or from the 1st Grade of Upper-Secondary Education to attend EPAS; and
4. initial vocational training outside the formal education system in vocational training schools (SEK) for young graduates of compulsory education, vocational training institutes (IEK) for young graduates of secondary schools and vocational training schools, as well as lifelong learning centres and colleges for unemployed graduates of higher education up to 29 years old or unemployed 18 - 29 years old.¹²⁸

A dominating position is reserved to initial vocational education (IVET) because either it leads to the acquisition of nationally recognised certificates by public authorities in the case of initial vocational education within the formal education system in the second cycle of secondary education at EPAL and EPAS, or it leads to a post-secondary VET diploma at EQF level 5, after completing the procedure of accreditation of their qualifications, for graduates of “Apprenticeship Year” of EPAL post-secondary studies and graduates of vocational training institutes (IEK). On the contrary, qualifications acquired through continuing vocational training (CVET) is provided by lifelong learning centres and by most universities, but the qualifications are not correlated with levels of the national qualifications framework. In fact, during the 1980s and 1990s the interest has been oriented to continuing vocational training and learning in the framework of the relevant EU policies, but not in an organised and coordinated manner. It appears that, in formal vocational education, the regulation and operation of Vocational Upper Secondary Schools (EPAL) and Vocational Schools (EPAS) of the Manpower Employment Organisation (OAED) function well with satisfactory absorption rates of graduates in the labour market, while the operating and supervisory framework of Lifelong Learning Centres has not yet been configured and the accreditation system of continuing vocational training remains at the level of the general requirement of Law 4283/2014.

Overall, VET in Greece is conceptualised through the two different sub-systems of initial vocational training and continuing vocational training, equivalent, complementary and closely related under the lifelong learning perspective. Largely influenced by the EU policy in VET, the conceptions of IVET and CVET follow the respective legal provisions, reserving a dominating position to IVET because of the official recognition of certificates or at least their correspondence to the EQF / NQF. As a result, the definition of VET corresponds to what is generally understood by the public. But VET does not appear attractive to young people as it is related to “inferior” manual labour. Greek society has always been characterised by a strong demand for general education and university studies, which are associated with expectations of improved social standing. The efforts made by the authorities to

¹²⁷ Ministry of Education, Research and Religion (2016). National Strategic Framework for upgrading Vocational Education and Training and Apprenticeships (in Greek), available at: https://minedu.gov.gr/publications/docs2016/Στρατηγικό_Πλαίσιο_EEK.pdf.

¹²⁸ CEDEFOP (2014). *Vocational education and training in Greece, Short description*. Luxembourg: Publications Office of the European Union.

present vocational education as an alternative of equal value with general education didn't affect young people attitude. Therefore, VET remains the second choice for most young people.¹²⁹

3. The historical development of VET in Greece

Much of the policy concerns were related to the malfunctions and weaknesses of the VET system in Greece due to the rapid development of the system on the basis of EU funding rather than market needs, the fragmented nature of measures and the absence of an integrated policy, coordination of activities and certification of professional qualifications. These shortcomings can explain the lack of a coherent conception and strategy for lifelong learning in Greece, as well as the complementary function of continuing training in relation to insufficient initial vocational training. There have been, however, significant efforts to relate vocational training to labour market needs through the creation of organisations and institutions that ensure the participation of social partners, the research and documentation of training and employment policies, and the statistical documentation and monitoring of labour market trends. The most recent efforts consist in the formation of institutional coordination functions of VET systems and their link to employment, as well as in the systematisation of existing VET systems as part of an overall strategy for lifelong learning.¹³⁰

Although the concept of technical and vocational education in Greece is very old and dates back to the creation of the independent Greek state, there have been several reforms in the content and the targeting of the institutional framework of VET. Since the 19th century, the debate on the orientation of the education led to the creation of two main pillars: (a) the general vocational education and (b) the technical vocational education in order to ensure the adaptation of the education to the changing economic, political and social needs. The productive activity in Greece during the 1870s was based on small craft enterprise and, thus, the goal of technical education focused mainly on its adaptation to European relevant standards and the constant belief that agricultural, commercial, and maritime education will ensure the economic prosperity in Greece. Yet, the perception for the classical value of the education and the contempt for technical and manual work have highlighted general education as the dominant one. The demand for gymnasium studies and studies leading to commercial schools and universities was clear during the 1920s: the aim being to ensure social and professional status. Law 4397/1929 for elementary education confirms the distinction between general education and schools of vocational education aiming to support the professional preparation of graduates of elementary education who did not want to continue to secondary and higher education.¹³¹

The conception of Vocational Education and Training in Greece was developed in the 1960s with the guidance and assistance of international organisations (i.e. the OECD, World Bank, and European Community) to help meet the immediate needs of a new, growing industry with demand for skilled labour. In this context, various types and forms of vocational education and training were created, among which Technical Vocational Education was dominant. The first major educational reform took place in 1957 in trying to provide new perspectives to the technical and vocational education through the creation of vocational schools in 1958 and ensuring access to vocational schools to acquire the relevant qualifications for the graduates who did not want continue to secondary education.¹³² The second major educational reform was undertaken with Law 576/1977 (Gov. Gazette 102

¹²⁹ CEDEFOP (2014). *Vocational education and training in Greece, Short description*. Luxembourg: Publications Office of the European Union, p. 17.

¹³⁰ Galata, P.V. (2009). *The Accreditation of Vocational Qualifications and the Collective Labour Agreements*. Athens-Thessaloniki: Editions Sakkoula (in Greek), pp. 48-49.

¹³¹ Karatzogiannis, S., Pantazi, S., (2014). *The vocational education and training in Greece. Weaknesses, possibilities and perspectives*. Athens: Small Enterprises' Institute of the Hellenic Confederation of Professionals, Craftsmen and Merchants - IME GSEVEE (in Greek), pp. 85-89.

¹³² Ministerial Act 1035/20.12.1958 and Legal Decree 3971/02.09.1959, Official Government Gazette No. 187 A/ 07.09.1959.

A/13.4.1977), which attempted to completely redraw the field of technical and vocational education in the country with its distinction on upper-secondary and post-secondary education. Following this distinction, the upper-secondary education was covered by Technical Vocational Schools (TES) and Technical and Vocational Lyceum (TEL), while the post-secondary education was to be provided by Higher Technical and Vocational Schools (ATES). Furthermore, Law 1346/1983 (Gov. Gazette. 46 A/14.04.1983) established the educational apprenticeship units of the Manpower Employment Organisation (OAED) and within the Law 1566/1985 (Gov. Gazette 167 A/ 30.9.1985), OAED's apprenticeship schools belonged in secondary education and the degrees granted were equivalent to those awarded by the Technical Vocational Schools (TES).¹³³

The third significant reform of secondary education occurred at the end of the 1990s with Law 2525/1997 (Gov. Gazette 188 A/23.9.1997) and Law 2640/1998 (Gov. Gazette 206 A/03.09.1998), which established the *Unified Lyceum* including all types of general and vocational lyceum and the *Technical Vocational Schools (TEE)* that belong to post-secondary education and lead, after exams, to Diploma Level 2 for graduates of the First Cycle Studies and to Degree Level 3 for graduates of Second Cycle Studies, according to Law 2009/1992 (Gov. Gazette 18 A/ 14.02.1992). The last principal change concerns Technical Vocational Schools that have been replaced by the Vocational Lyceum (EPAL) and Vocational Schools (EPAS) with the enactment of Law 3475/2006 (Gov. Gazette 146/A/13.07.2006) in order to combine general education in the second cycle of secondary education with the technical and professional knowledge.¹³⁴ Despite all reforms trying to place Technical and Vocational Training as an equal alternative to the General Lyceum, in practice and in the general consciousness, technical education has been considered as inferior to general education.¹³⁵

The most recent legislative activity was influenced by the EU's post-2000 emphasis on creating a competitive Europe that can meet the new challenges of the knowledge-based society. Since 2000, four laws – on the national system linking VET with employment (Law 3191/2003), systematising lifelong learning (Law 3369/2005), developing lifelong learning (Law 3879/2010), and restructuring secondary education (Law 4186/2013) – have been enacted to regulate the domain of VET and lifelong learning.¹³⁶ As already mentioned, Law 4186/2013 aims to modernise secondary vocational education and strengthen its work-based learning elements. In particular it is foreseen that Schools of Vocational Training (SEK) provide non-formal initial vocational training to graduates of compulsory education and, for the first time, there will be the possibility of post-secondary level apprenticeship ("Apprenticeship Class").¹³⁷ It also allows post-secondary VET providers (IEK) to offer similar programmes to apprenticeships and practical training in several specialities. The modernisation of vocational education and training is reinforced with specific requirements provided by Law 4336/2015 to establish a modern quality framework for VET and apprenticeships, the identification system of skills needs, a process for upgrading programmes and accreditation, a closer involvement of employers and a greater use of private financing.¹³⁸ It is obvious that high youth unemployment rates

¹³³ Manpower Employment Organisation - OAED (2015). Support of Implementation Actions of Upgrading Apprenticeship of OAED. Apprenticeship of OAED: trends, developments, perspectives, the reform of apprenticeship. Expertise Consultancy. November 2015 (in Greek), pp. 8-11.

¹³⁴ Manpower Employment Organisation - OAED (2015), idem; Foundation for Economic & Industrial Research (2015). Apprenticeship systems in Greece and Europe and their financial dimension. Terms, conditions, working scenarios for wider participation of private sector. Athens, June 2015 (in Greek), pp. 31-37.

¹³⁵ Karatzogiannis, S., Pantazi, S. (2014), idem, p. 93.

¹³⁶ CEDEFOP (2014). Vocational education and training in Greece, Short description. Luxembourg: Publications Office of the European Union.

¹³⁷ Manpower Employment Organisation - OAED (2015), idem, pp. 11-12.

¹³⁸ Memorandum of Understanding between the European Commission (acting on behalf of the European stability mechanism), the Hellenic Republic and the Bank of Greece for a three-year ESM programme

put apprenticeships under the spotlight of policy priorities and developments in Greece and the increase of apprenticeships for 2014-2020 is a priority against youth unemployment. Other types of workplace learning are also taken into consideration in developing a national framework for apprenticeships.

On the other hand, the legislation of apprenticeship within Law 4186/2013 has been largely criticised as being inadequate due to the insufficient funding and the absence of modern work-based training programmes. Thus, apprenticeships are not treated as an educational policy and has transformed in to a latent employment policy. Another negative factor relating to the effectiveness of VET and apprenticeship lies in the general approach that regards unemployment as being is due to the mismatch between the supply and demand of skills, or to the lack of appropriate skills; while the policy discussion should start from the type, quantity, and quality of jobs offered in the Greek labour market. Finally, it should be taken into consideration that policy decisions are directed by EU funding to support EU policies in the field of VET, which does not always respond adequately to the needs of the labour market in Greece.¹³⁹

As far as continuing vocational training concerned, policy options in Greece were oriented and supported in the framework of the relevant EU policies, but not in an organised and coordinated manner. The legislative over-activity observed in the field is explained by the effort of the State to control the development of the respective market characterised by conflicting interests and European pressures.

The current debate on the role of vocational education and training is being renewed in view of its contribution to fight against unemployment, and notably youth unemployment, as well as to respond to the increased demands of social protection generated by the crisis. In the case of Greece, the limited fiscal capacity of the country along with the existing structural weaknesses of the economy and the welfare state has resulted in the government having limited room to manoeuvre.¹⁴⁰

4. Changes in VET Enrolment

The capturing of adult participation rates in educational and training activities in Greece over time constitutes one of the hardest tasks, as there several discontinuities. During the 1980s, within the first input of European funding resources, an increase in the number of participations in learning activities was recorded. According to available data in 1991, up to 6% of the working population participated in training activities financed by the European Social Fund. During the period 2000-2006 the adult participation rates in lifelong learning activities in Greece were particularly low and ranged from 1.0% to 2.3%, compared with 7.1% to 9.7%, respectively, in the EU.¹⁴¹ Adult participation in lifelong learning remains at a low a rate of 3.0% in 2014, compared with an EU average of 10.7%. Participation in adult learning, at 5.7 % in 2015, also remained low and far below the 10.7 % EU average.¹⁴²

for Greece, 19 August 2015. Also, Law 4336/2015 Pension provisions - Ratification of Schedule Contract Financial Assistance from the European Stability Mechanism and arrangements for the implementation of the Funding Agreement, Official Government Gazette No. A 94/14.8.2015.

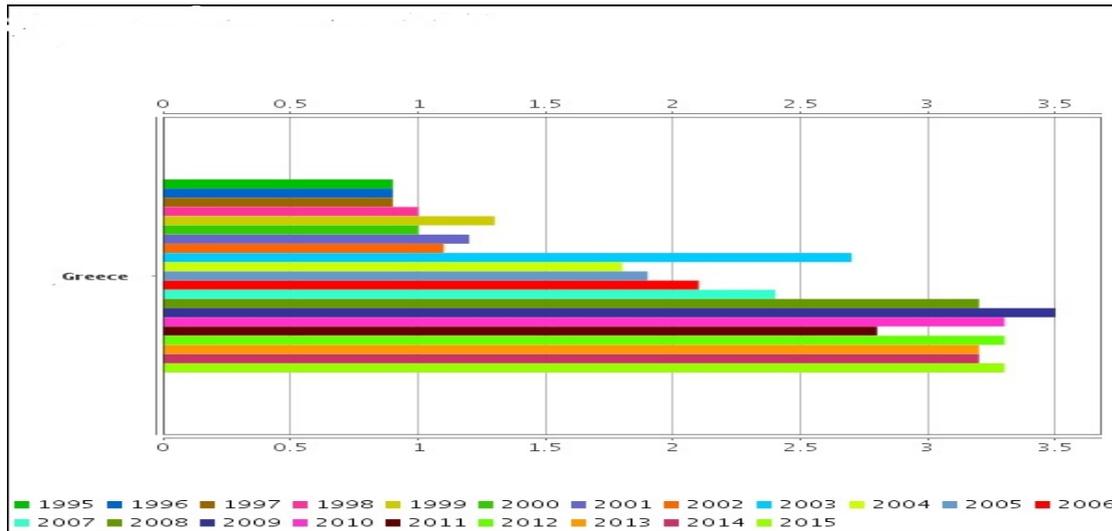
¹³⁹ Karatzogiannis, S., Pantazi, S. (2014), *idem*, p. 276-285.

¹⁴⁰ Galata, P.V. – Chrysakis, M. (2016). "Active Labour Market Policies in Greece: Challenges and Responses During the Economic Crisis", *Social Policy*, Vol. 6, June, pp. 45-66.

¹⁴¹ Karalis, T. (2013). Incentives and obstacles for the participation of adults in lifelong education. Athens: IME GSEVEE and INE GSEE (in Greek), pp. 22-31.

¹⁴² European Commission (2015). *Education and Training Monitor 2015 – Greece*, Luxembourg: Publications Office of the European Union, p. 8. Also, European Commission (2016). *Education and Training Monitor 2016 – Greece*, Luxembourg: Publications Office of the European Union, p. 7.

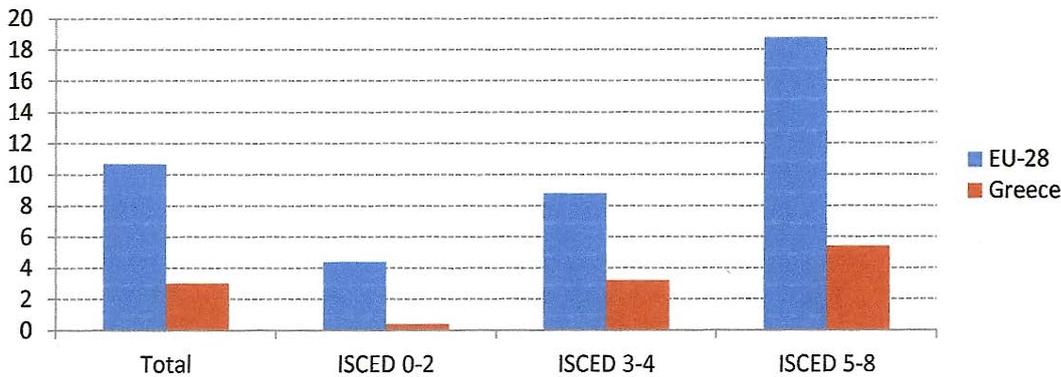
Figure 1: Adult participation in lifelong learning in Greece 2005 - 2015



Source of Data: Eurostat, 28.06.2017

Adult participation in lifelong learning includes all education or training and refers to persons aged 25 to 64 who stated that they received education or training in the four weeks preceding the survey independently of their current or future job.

Figure 2: Adult participation in lifelong learning in Greece by ISCED Level, 2014/5



Source: Eurostat

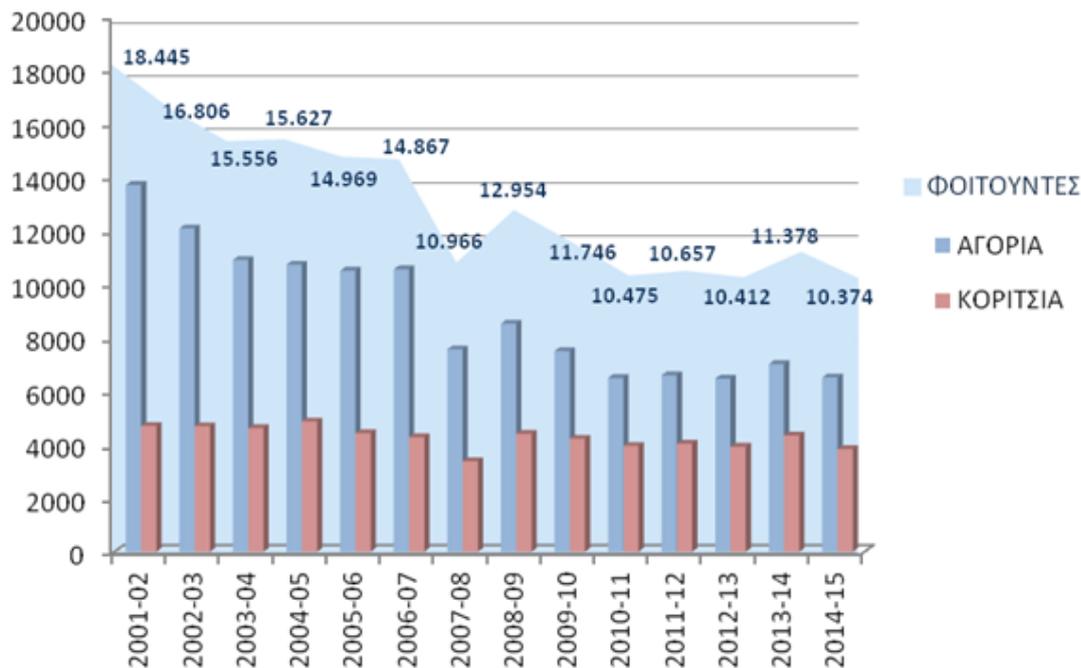
As participation in adult education is determined particularly by educational attainment, employment status, occupational category, age and skills, it appears that adults with low level or no qualifications, those in low-skilled occupations, the unemployed and economically inactive, older people and the least skilled, are less likely to participate in lifelong learning. In Greece, the lower skilled (ISCED level 0-2) have a participation rate of barely 0.4% in 2014, compared with the EU average of 4.4%.¹⁴³ So, when comparing adult workers with low-level qualifications (ISCED 0-2) to adult workers with high-level qualifications (ISCED 5-6), an aggregate average disadvantage for the low qualified is found, which is statistically significant. Even with these exceptionally low participation rates in non-formal adult education, the probabilities of participation in job-related training are lower, by 3 percentage points, for unemployed adults (and lower by 8 percentage points for the inactive) than for employed

¹⁴³ European Commission (2015). Education and Training Monitor 2015 – Greece, Luxembourg: Publications Office of the European Union, p. 8. Also, European Commission (2016). Education and Training Monitor 2016 – Greece, Luxembourg: Publications Office of the European Union, p. 7.

adults. Moreover, there is a considerable disadvantage in participation for those employed in small establishments, formally low qualified and manual skilled workers.¹⁴⁴

The following Figure shows the yearly number of apprentices in the Vocational Education Schools of OAED (Technical Vocational Schools TEE up to year 2005-2006 and EPAS thereafter with the enactment of Law 3475/2006) from 2001-2002 to 2014-2015. The graph shows the total number of apprentices by gender (male: blue) and female (red).

Figure 3: Apprenticeship starts in Vocational Schools of OAED in Greece, 2001 to 2014



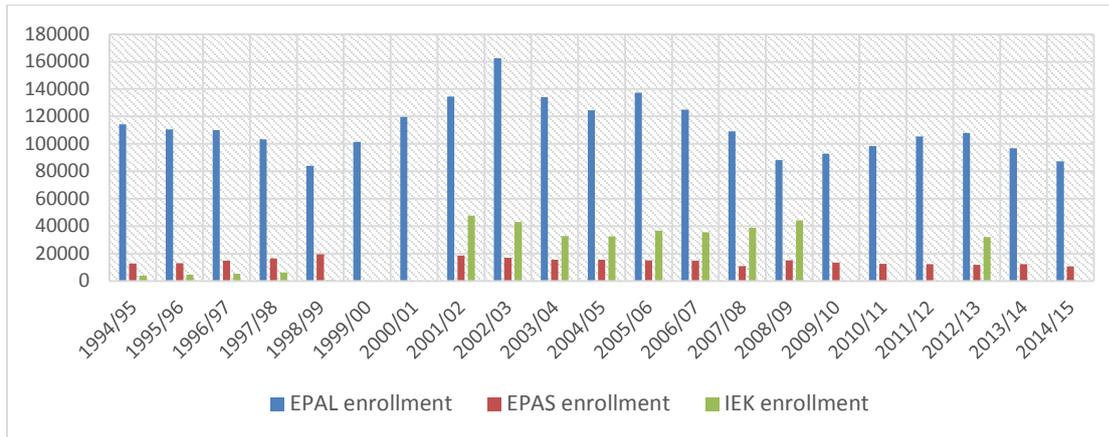
Source: Manpower Employment Organisation - OAED (2015), p. 14.

The number of apprentices in EPAS has decreased over time, but in recent years the trend has stabilised at around 10,000 apprentices a year. The decline in male students from 2001 to 2014 reached 52%, in other words 13,734 students attended the school year 2001/2 compared to 6,527 students attending in 2014/5. The decline in the participation of female students is significantly lower and reached 18% - 4,711 students attended in the school year 2001/2 compared to 3,857 students in 2014/5.¹⁴⁵

¹⁴⁴ Cedefop (2015). Unequal access to job-related learning: evidence from the adult education survey. Luxembourg: Publications Office of the European Union, pp. 69-70.

¹⁴⁵ Manpower Employment Organisation - OAED (2015), idem, pp. 13-14.

Figure 4: Percentage of upper secondary school in work-based programmes



Source: Official Education Statistics 1994/95-1997/98, Statistical Yearbook of Greece 1999, 2009 & 2010 and Centre for the Development of Educational Policy of GSEE (2015).¹⁴⁶

Although work-based learning is included in the programmes of vocational upper secondary schools and institutes, the above figure demonstrates clearly the preference of students for upper secondary schools within the formal education system. This leads to the acquisition of certificates recognised by public authorities and provides the possibility to take exams for access to higher education institutes or it leads to a post-secondary VET diploma at EQF level 5.

Vocational Upper Secondary Schools (EPAL) provides initial vocational education and operates within the formal education system in the second cycle of secondary education. The public vocational upper secondary schools offer the specialities that are listed in the legislation and classified by Guidance Groups. Graduates of EPAL achieving the Vocational Upper Secondary School Certificate are eligible to take the national examinations for access to higher education institutes. Law 4186/2013 has initiated the Apprenticeship Year of EPAL, which is optional and constitutes "post-secondary studies" outside the formal education system.

Vocational Schools (EPAS) of OAED enable learners to follow specialities not requiring a strong theoretical background; instead they mainly focus on practical training to help students immediately join the labour market. For each speciality, related job profiles or required occupational qualifications should be considered. The course has a duration of two years. Tertiary education programmes are not open to EPAS graduates.

Vocational Training Institutes (IEK) provide specialities that are organised in specific Guidance Groups and respective Sectors listed in the legislation. Attendance at IEK is up to five semesters in total, four of theoretical and laboratory training in the specialty, and one of practical training or apprenticeship. Students who successfully complete all the prescribed semesters are awarded a Certificate of Vocational Training. This Certificate entitles the holder to take part in vocational training certification examinations conducted under the jurisdiction of National Organisation for the Accreditation of Qualifications (EOPPEP), with which they acquire a postsecondary VET diploma.¹⁴⁷

¹⁴⁶ National Statistical Service of Greece (2002). Statistics of Education 1994/95-1997/98; National Statistical Service of Greece (2000). Statistical Yearbook of Greece 1999; National Statistical Service of Greece (2011). Statistical Yearbook of Greece 2009 & 2010; Centre for the Development of Educational Policy of GSEE (2015). Yearly Report on Education 2015, p. 39.

¹⁴⁷ Karantinos, D. (2014). Recent developments regarding the apprenticeship system in Greece. Paper in response to European Employment Policy Observatory Ad-hoc Request.

Apart from the preference to EPAL and EPAS, it is observed that after the decline of enrolments in the beginning of the crisis, namely in the school year 2008/9, there is an increase of enrolments during the four-year period between 2010 and 2013 with a clear preference for vocational schools in the public sector. Concerning upper secondary vocational training outside the formal education system, provided by vocational training institutes (IEK), lifelong learning centres and colleges, there is a great instability in the field and the content of studies as well as in the participation rates of its student population. More precisely, during the period between 2001 and 2008 and according to the data available from Eurostat, the student population of post-secondary non-tertiary level decreased by -7.0%. Finally, the legislative initiatives adopted during 2011-2014 resulted in an increase of student population in the private sector and its respective decline in the public sector.¹⁴⁸

5. The interplay between external and the internal factors shaping VET

The above analysis highlighted the endogenous characteristics and main policy changes occurred during the development of the VET system in Greece. To move further in the analysis, there is a need to examine the external and internal factors that influence any policy decisions for the improvement and better functioning of the VET system in Greece in view to responding to the increased demands of adaptation and social protection generated by the crisis.

The VET system in Greece responded to technical and demographic change in a quite modest way in the period before the economic crisis. For instance, VET programmes gave priority to the integration of women in the labour market, but mainly because of the existing EU policy priorities in the field and not as a result of clearly identified needs in the national labour market. Therefore, the response of VET to labour market needs and changes is considered among the main weaknesses of the VET system, which was due to the rapid development of the system on the basis of EU funding rather than market needs, the fragmented nature of measures and the absence of an integrated policy, clearly related with the jobs offered in the Greek labour market.

The reforms introduced since 2010 show better opportunities for Greece to exploit its strong comparative advantage in certain sectors, such as in tourism, by fostering the acquisition of skills through sector-specific vocational training and relevant practical experience that may help to improve the quality of relevant services. Moreover, the demographic changes related to the migration rate and the technical changes leading to the need of investing in the highly qualified human capital seem to be seriously taken into consideration during the economic crisis. Thus, the necessary redefinition of all types and forms of academic and vocational specialisation closely related with the technology opportunities and the jobs offered in the Greek labour market is considered as a priority to ensure the effectiveness of VET policies.

The economic crisis and its colossal impact on the Greek economy and labour market has tended to focus the debate very much on how to adapt to the post-crisis situation.

Demographic change

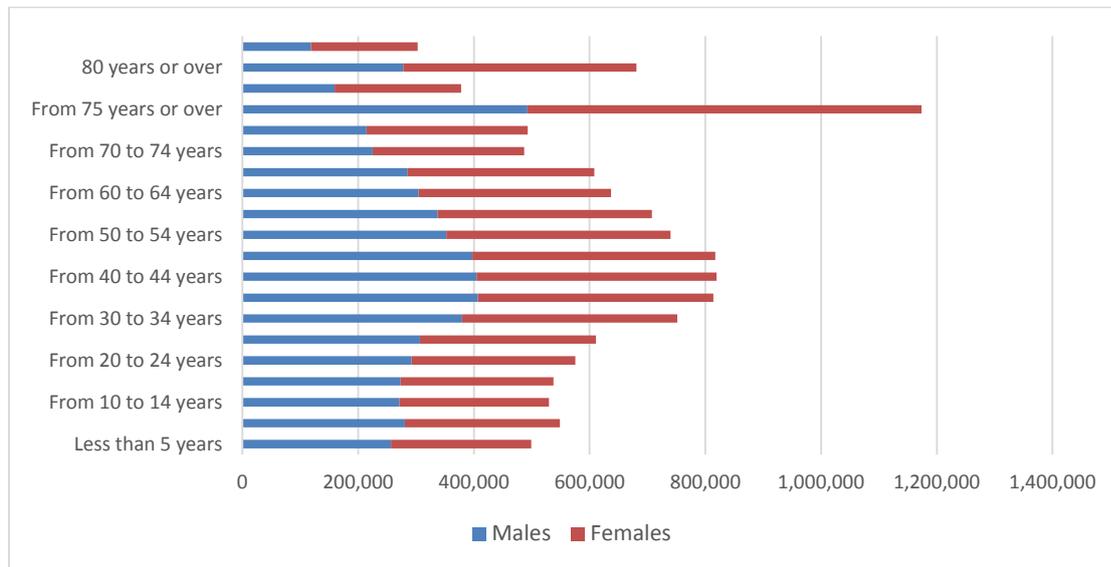
In 2015, Greece recorded the largest negative crude net migration rates (-3.3 per 1,000 persons) along with Lithuania (-7.7), Latvia (-5.4) and Croatia (-4.3). The total population in Greece has decreased from 11,123,392 citizens in 2011 to 10,926,807 in 2014, 10,858,018 in 2015, and 10,783,748 in 2016. This decline was considered to be a result of negative net migration (although this was supplemented by a relatively low negative rate of natural population change).¹⁴⁹ Between

¹⁴⁸ Center for the Development of Educational Policy of GSEE (2015). Yearly Report on Education 2015, pp. 33-40.

¹⁴⁹ Eurostat Statistics Explained (2016). Population and population change statistics.

2005 and 2015 the median age increased in Greece by more than 4.0 years, namely from 39.2 in 2005 to 43.4 to 2015. The old age dependency ratio, which shows the relative size of the older population compared to the working age population is high up to 32.4%, which means approximately three working age people for every person aged 65 or older. Furthermore, according to the age pyramid for 2015 as shown in the figure below, it seems that the population in Greece is projected to continue to age, although 'baby boomers' continue to represent a major part of the working-age population.

Figure 5: Age structure of Greek population, in 2015



Source: Eurostat, 2016.

The 'baby boom' bulge is moving up the population pyramid, leaving the lower part of the working-age population and the base (persons aged 0–14) narrower. Thus, it seems that by 2080 the pyramid will take more the shape of a block, narrowing slightly in the middle of the pyramid (around the age 45–54 years) and considerably near the base.¹⁵⁰

The rising unemployment and the deep economic recession have caused part of Greece's human resources to migrate abroad, with alarming implications for the country's demographics, public finances, pension system and, to the extent that those who leave are highly-skilled, the quality of the remaining labour force. Therefore, specific measures are needed to: (a) redefine the types and forms of academic and vocational specialisation needed to improve skill matching for the young generations; (b) support business start-ups; (c) combat the lack of transparency and nepotism; (d) promote excellence; (e) expand apprenticeship and internship schemes; and (f) foster a business-friendly environment.¹⁵¹

The challenge facing the VET system – and the education system in general – is to encourage investments in human capital that can be captured by the Greek economy. But as noted throughout the study there is a preference for people to take the general route through the education system because this gives access to higher education. And this then potentially provides the means to leave the country to work abroad. There is now an emphasis on apprenticeships which has the potential to improve the attractiveness of the vocational education to young people.

¹⁵⁰ Eurostat Statistics Explained (2016). Population structure and ageing.

¹⁵¹ Bank of Greece (2016). Summary of the Annual Report 2015. Athens, February 2016, p. 17.

The danger is that economic recovery could be hampered by a lack of skills (and the lack of skills may be a disincentive to investment). It is apparent that the country is investing skills anticipation via the Mechanism and this may provide the means to ensure that the country is able to better match skills supply to skills demand as the economy begins to grow.

Technological change

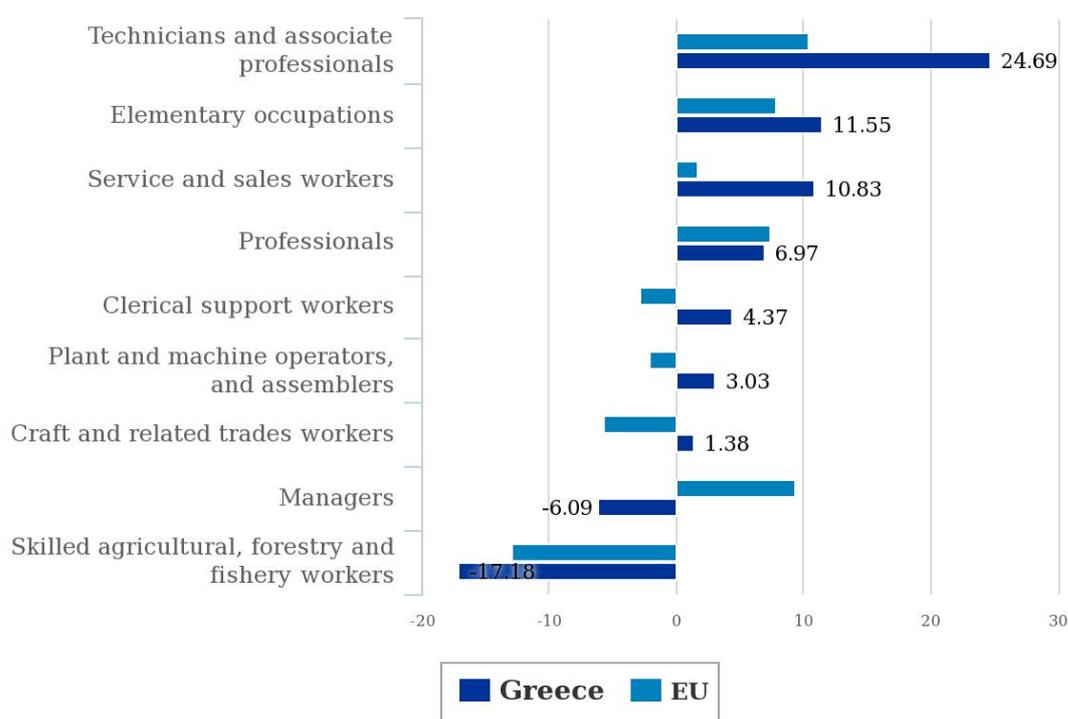
Skills forecasts for Greece predict that demand for high- and low-skilled workers, and to a lesser extent medium-skilled workers, will all rise in the coming years. Looking forward to 2025, the share of the labour force with high level qualifications will rise, whilst the share with medium- or low-level qualifications will decrease.¹⁵²

Although employment has declined across all economic activities, most of the job losses occurred in three main sectors: construction, manufacturing, and retail trade, accounting for around two-thirds of total employment destruction between late 2008 and 2013. Following the general shrinking of the public sector in recent years, job cuts in public administration, education and health together accounted for another 10 per cent of the total employment contraction. Examining job losses by occupation, shows that the bulk of employment losses have been concentrated in medium-skilled areas. In particular, between 2008 and 2013, the number of both clerical workers and plant and machine operators were reduced by more than 30 per cent. Over the same period, the number of craft workers dropped by 46 per cent, mainly as a consequence of the crisis in the construction and manufacturing sectors. To spur innovation, it is crucial that Greece increases its leveraging of the highly qualified human capital that exists in the country, while also limiting significant emigration flows of highly educated individuals by enhancing collaboration between firms and research institutions and promoting the acquisition of practical skills by young. A good opportunity for Greece is to exploit further its strong comparative advantage in tourism by fostering the acquisition of skills through sector-specific vocational training and relevant practical experience may help to improve the quality of tourism services.¹⁵³

¹⁵² Cedefop, Skills Panorama, <http://skillspanorama.cedefop.europa.eu/en/countries/greece>.

¹⁵³ International Labour Office, Research Department (2014). Greece: Productive jobs for Greece. Geneva: ILO, pp. 10-14, 28.

Figure 6: Future employment growth (% change) across occupations in Greece compared to EU in 2015-2025



Source: Cedefop, Skills Panorama - Greece

Fostering research, bringing about technology diffusion, and increasing entrepreneurship are the key to harnessing human capital. To this end, public policy intervention can encourage technology transfer, i.e. the commercialisation of academic and scientific research (licensing and patents), and at the same time open up career opportunities for talented young graduates. A positive step to invest on a culture of entrepreneurship and excellence is the creation of the “Hellenic Foundation for Research and Innovation (HFRI)” with the Law 4429/2016, following a finance agreement between the Hellenic Republic and the European Investment Bank that will also offer a solution to the funding problems of innovative small and medium sized enterprises.¹⁵⁴

Macro-economic challenges

It is worth mentioning that the Greek economy suffered significant macroeconomic changes during the period 2008-2014, recording a cumulative loss in terms of GDP that exceeded 25%. Greece continues to face a severe economic recession, which has aggravated the serious and chronic structural problems of the economy and the labour market explaining why the implications of the crisis were particularly adverse. The reforms introduced under the First and Second Economic Adjustment Programmes, agreed in May 2010 and in March 2012 respectively, affected employment protection, wage setting mechanisms and social security and led to deep wage, pension and healthcare cuts, which had a devastating impact in the labour market.¹⁵⁵

On the other hand, one of the objectives of the Economic Adjustment Programmes undertaken by Greece was to restore international competitiveness and promote sustainable long-term growth by

¹⁵⁴ Bank of Greece (2016). Summary of the Annual Report 2015. Athens, February 2016, p. 15.

¹⁵⁵ Bank of Greece (2015). Monetary Policy 2014-2015, Athens, p. 56; Bank of Greece (2014). The Chronicle of the Great Crisis: The Bank of Greece 2008-2013, Athens: Bank of Greece, Centre of Culture, Research and Documentation, pp. 42, 55.

reducing unit labour cost. Between 2001 and 2008, labour compensation per hour worked increased by 5.3 per cent per year, while productivity – measured as GDP per hour worked at constant prices – rose by 3.3 per cent per year over the same period. As the crisis erupted, labour compensation continued to increase until 2009. Since then, a series of reforms related to the minimum wage setting and collective bargaining legislation were implemented with the aim of facilitating the adjustment process. As a result, between 2010 and 2013, unit labour cost cumulatively fell by more than 13 per cent, with wages dropping by 17 per cent. Therefore, efforts are needed to foster the productivity and innovation of firms, with a view to developing higher quality products and shifting away from the traditional economic base of Greece.¹⁵⁶

Figure 7: Productivity in Greece



Productivity remains weak in the economy and this remains a challenge for the economy.¹⁵⁷ In some respects the key issue is how to promote investment in the country which might have the impact of increasing productivity. Clearly the quality of human capital is of importance here, but is hard not to regard this as, to some extent, a second order consideration when the first order one is how to increase investment and promote growth. But as noted in the section on demographic change, unless the skills are in place to meet labour market needs, this could potentially act as a constraint or drag on growth.

It is apparent that one impact of the crisis has been to reduce the amount of public funding available for VET. Initial Vocational Education is part of upper secondary education of the Greek educational system. Thus, Vocational Schools EPAL and EPAS are funded from the state budget. Initial vocational training at post-secondary level delivered by IEKs and supervised by the Ministry of Education is funded by the money allocated to the Ministry from the national budget as well as by European funds. Although relevant data is not available, the budgetary constraints implemented due to the economic crisis will result in reducing significantly public expenditure on VET and deep concern on the part of social partners and private companies has been expressed.¹⁵⁸

¹⁵⁶ International Labour Office, Research Department (2014). Greece: Productive jobs for Greece. Geneva: ILO, pp. 51-61.

¹⁵⁷ Trading Economics, Greece Productivity, <https://tradingeconomics.com/greece/productivity/forecast>.

¹⁵⁸ European Commission/EACEA/Eurydice (2015). Adult Education and Training in Europe: Widening Access to Learning Opportunities. Eurydice Report. Luxembourg: Publications Office of the European Union, p. 117. Also, CEDEFOP ReferNet (2009). Greece. VET in Europe – Country Report.

6. Conclusion

The above analysis allows one to take advantage of the lessons learnt from the historical development of the VET system in Greece, as well as the demographic, economic and technological challenges that emerge in times of crisis. Despite the weaknesses in the implementation of active labour market policies in Greece and the limited fiscal capacity of the country in shaping social policy solutions, the role of VET can be attractive if long-term, coherent and well-coordinated design and implementation of policy interventions will take place in correspondence to the labour needs in this conjuncture.

Specific measures are required to improve the effectiveness of VET policies through the necessary redefinition of all types and forms of academic and vocational specialisation closely related with the technology opportunities and the jobs offered in the Greek labour market. It seems that actors in Greece are better equipped now with alternative active labour market solutions to counter social crisis. What is needed is to fully exploit other countries' experiences and to increase expenditure in favour of active labour market policies to combat unemployment and social exclusion. Despite the narrow margins of policy options, there are several challenges for promoting active labour market policies, particularly in a recession, provided that they will not substitute the fundamental guarantees of work and income replacement and that will be associated with a comprehensive policy of job creation.

There are lessons to be learnt from the past. In the period before 2010 the weaknesses of the VET system in Greece were due to the rapid development of the system on the basis of EU funding rather than market needs. This has led to policy that was oriented towards targeting EU funds, fragmented measures and absence of an integrated VET policy clearly related with the jobs offered in the Greek labour market. As a result, policy became more oriented to linking VET national system with employment and labour market needs. A major reform occurred with the enactment of Law 3879/2010 on Lifelong Learning, introducing the common treatment of the two different subsystems of initial vocational training and continuing vocational training under the national integrated strategy on lifelong learning. The second major reform with Law 4186/2013 on secondary education focused on the modernisation of VET and the strengthening of its work-based component through initial vocational education within the formal education system and apprenticeships. The modernisation of vocational education and training was reinforced with specific requirements provided by Law 4336/2015, giving priority to a modern quality framework for VET and apprenticeships, a system to identify skills needs (the Mechanism), a process for upgrading programmes and accreditation, a closer involvement of employers in the VET system, and a greater use of private financing.

To summarise, the differences observed in the Greek VET system 20 years ago with today, the following could be concluded.

- An integrated approach of the VET under lifelong perspective is promoted since 2010 against the previously segmented treatment of the two different subsystems of initial vocational training and continuing vocational training.
- Greater emphasis on ensuring that VET meets labour market demand. The period before 2010 was characterised by a lack of an integrated policy and adequate responses to labour market needs.
- The current priority given to initial vocational education within the formal education system and the importance attached to apprenticeships is now much more evident.

- The fulfillment of the prerequisites for a modern and effective VET system, such as the identification system of skills needs or the process for upgrading programmes and accreditation, is now very much more evidence that it was 20 years ago.

Due to budgetary constraints, the margins of policy options are currently narrow compared to the period before the economic crisis started in Greece in 2009. The challenge is to link VET policy to job creation. This challenge was apparent even in the period before economic crisis albeit to a lesser degree than today.

France

Alain Michel

I. Introduction

In France, vocational education and training (VET) is delivered through four different pathways:

1. Initial vocational education (IVET) delivered in schools, primarily administered by the Ministry of Education, but also other Ministries (Agriculture, Health and Social Affairs, National Defence, and the Ministry of Youth and Sports) and Chambers of Commerce and Industry, Chambers of Trades and Crafts (*Chambres des métiers et de l'artisanat*) and Chambers of Agriculture;
2. IVET through Apprenticeships;
3. continuous vocational training (CVET) organised by ministries (mainly Ministry of Education, Ministry of Labour/Employment, Ministry of Agriculture, Ministry of Health and Social Affairs and the Ministry of Industry), local authorities (Regional Councils), Chambers of Commerce and Industry, industry branches and enterprises themselves; and
4. recognition and validation of informally acquired competences: *validation des acquis de l'expérience* (VAE) since 2002.

The network of training institutions – which are supervised by the Ministry of Labour and Employment - delivers certifications referred to as '*titres professionnels*', which are different from educational degrees but are nevertheless registered in the French National Framework of Qualifications (RNCP) by the National Commission of Professional Certification (CNCP).¹⁵⁹

Private sector organisations also deliver vocational qualifications / certificates (*certificats de qualification professionnelle*). Collective agreements which apply to various industrial branches validate competences related to specific tasks or responsibilities and award certificates directly. The requirements are defined in the agreements with the trade unions at branch/industry sector level (*conventions collectives*). While the *titres professionnels* awarded by the Ministry of Labour are recognised at national level and registered in the national qualification framework by the CNCP, the industry-awarded certificates (*certificats de qualification professionnelle*) are not automatically registered. For example, the French banking sector has its own complete system of VET and its own qualifications which are not automatically recognised and classified by the National Qualification Framework (NFQ).

Thus, if we add all the diplomas awarded by the ministries and other public or semi-public bodies, - encompassing the *titres professionnels* awarded by the Ministry of Labour's network and the *certificats de qualification professionnelle* which are delivered by industry branches - there are about 8,000 different vocational certifications awarded in France.

This first feature of the French VET system shows its complexity and the high number of decision makers and stakeholders involved in VET, which does not necessarily fit with the image of the French system in some international studies which describe it as a rather simple, heavily centralised one run mainly by the state and other public authorities.

¹⁵⁹ RNCP: Répertoire National des Certifications Professionnelles' (French NQF); CNCP 'Commission Nationale de la Certification Professionnelle' (set up in 2002).

A second major feature of the VET system in France is the differentiation of three major tracks in upper secondary education: (i) a general academic track; (ii) a technological track; and (iii) a vocational track.

In June 2000, all current legislation concerning education was consolidated in an overarching Education Code (*Code de l'Éducation*). Schooling in France is compulsory from the ages of 6 to 16 years; about 99% of children also attend pre-primary school from the age of 3 and 35% from the age of 2. For enrolment at this early age, priority access is given to children from disadvantaged social backgrounds, in particular, those from 'zones d'éducation prioritaire' (priority educational areas). Following their four-year lower secondary education (known as 'collège'), students who wish to follow a vocational pathway may choose between either a vocational stream within a senior high school, which is called a (*Lycée professionnel, LP*) or an apprenticeship, with time shared between an enterprise and an apprenticeship training centre (*Centre de Formation d'Apprentis, CFA*). In the vocational stream, studies in both a *lycée professionnel* and in the apprenticeship tracks include periods of theory-based learning and experience in an enterprise. In the LP courses, there are compulsory periods of workplace training lasting between three and ten weeks each year, depending on the diploma and the speciality. The legal status of learners is different in LP (student) and in apprenticeship/CFA (worker status under labour legislation).

2. What is meant by VET and the national VET system

VET in France is translated to '*Enseignement et formation professionnels*' and is not defined officially in the *Code de l'éducation*. As a matter of fact, it can be perceived and interpreted in different ways, as it may apply to different types of education and training.

The traditional distinction between IVET and CVET is becoming less relevant in the content of the importance accorded lifelong learning (LLL) as reflected in the recommendations of the European Council and the European Commission. This is not only due to the fact that some students attend training sessions after a short interruption in their course, it is also due to the fact that even compulsory education is increasingly influenced by expectations from employers and society in terms of core skills and competences, including transversal competences and soft skills. The more general paradigm is that VET allows students to acquire skills, competences, attitudes, behaviours and knowledge required to find a job at any time during working life.

VET has a specific meaning when it applies to the vocational upper secondary track either in the LP or through apprenticeships. It refers to either a two-year course in order to obtain a '*Certificat d'Aptitude Professionnelle*' (CAP) which corresponds to level EQF3, or to a three-year education preparing to earn a '*baccalauréat professionnel*' (*Bac Pro*) which is classified at level EQF4.

VET can also apply to higher education, something that is increasingly common as a greater number of study programmes are available to prepare individuals for professional qualifications. This is the case for qualifications at levels EQF 5, 6 and 7 in many domains: engineering, trade and management, medicine, law, etc. The higher technological studies provided by schools (engineering or business schools) can lead to a qualification recognised as a Master's degree by legal regulations or, depending upon the curriculum leading, to a more specific VET qualification. Therefore, the question remains open on whether or not to include both types of studies within VET. As for apprenticeships, there are also (since the 1990s) possibilities to obtain an engineering degree. Therefore, it seems consistent to include such training in IVET.

With regard to the perceptions of the public and employers, IVET in France refers mainly to qualifications at EQF levels 3, 4 and 5; but legally, a '*licence professionnelle*' is recognised at level 6 and

a Master's qualification could be recognised at level 7 (though this is not yet the case within the French NQF).

There is no single definition of VET in France in the legal texts but there are descriptions of VET sub-systems, formulations of objectives of qualifications in terms of learning outcomes and descriptions of knowledge and skills to be acquired (*référentiels de certification*).¹⁶⁰ These educational and assessment standards are themselves determined by occupational standards, which are defined by professional consultative commissions (CPC) including employers, trade union representatives and educationists (teachers, trainers and curriculum experts). Originally established in 1972, a decree of May 2007 reorganised the *Commissions Professionnelles Consultatives (CPC)*. Now there are 14 CPC under the Ministry of Education: one for each large sector of economic activity; for example: Metallurgy, Food Industry, Chemistry/Bio-industry/environment, or Trade and Distribution.

The image of IVET at upper secondary level remains weak despite the continuous efforts of the government to improve this image because the general academic and technological tracks are regarded as recruiting better students and are considered to lead to more prestigious and better paid jobs. But the image of higher vocational education is still quite positive.

3. The historical development of VET

Since the mid-1980s, successive governments have adopted measures in order to make VET more attractive and improve its effectiveness, as well as its capacity to take into account the evolution of the labour market and provide the new skills required by the employers in a fast changing economy and society.

The main changes that had an impact on its image and attractiveness were:

- the creation of the vocational baccalauréat (*bac pro*) in 1985;
- the laws of 1993 and 2009 giving major power to the regions;
- the possibility to take higher education exams through apprenticeships starting in the 1990s; and
- more recently, in 2009, the decision to prepare the '*baccalauréat professionnel*' in three years (instead of four years as before) to make it the same as the technological and the general baccalauréat.

The decision to create the vocational baccalauréat (*baccalauréat professionnel*) increased considerably the attractiveness of upper secondary VET because the upper secondary vocational pathway could now lead to a certification at level EQF4, or still higher as it opened the possibility to go on to higher education, mainly through two types of two-year post-baccalauréat institutions:

1. the 'sections de technicien supérieur' (STS) (post-baccalauréat classes in 'lycées généraux et technologiques' (LEGT) preparing for a 'Brevet de Technicien Supérieur' (BTS);
2. the '*Instituts Universitaires de Technologie*' (IUT) institutions which are within universities and prepare for a '*Diplôme Universitaire de Technologie*' (DUT).

¹⁶⁰ Ministry of Education (2002) L'enseignement professionnel en France, DGESCO; Cedefop (2008) Vocational education and training in France, Luxembourg; Ministry of Education (2010) L'Éducation Nationale et la formation professionnelle en France, DGESCO; Cedefop ReferNet France (2013). VET in Europe: country report France; IGEN-IGAEN (2016) Cartographie de l'enseignement professionnel en France, Ministry of Education

Both of these official qualifications are at level EQF5 and are increasingly followed by a supplementary year of training leading to a '*licence professionnelle*' (professional Bachelor) which is a qualification at level EQF6.

In 2009, another measure to make IVET more attractive was to offer the possibility to complete the '*baccalauréat professionnel*' in three years. One should also mention in this respect the creation of special classes that allow the participant to join the technological track or the general track after two years in the vocational track (*classes d'adaptation*). This reform led changes affecting the qualification degree at level EQF3 – the '*Brevet d'études Professionnelles*' (*BEP*) which gave a broader qualification (less specialised) than the vocational degree at the same level: the '*Certificat d'Aptitude professionnelle*' (*CAP*). This degree is now the only national vocational qualification at level EQF3. The *BEP* is no longer a degree it is just an intermediary qualification for the students studying towards a vocational baccalauréat (*'bac pro'*) at level EQF4.

Another important feature of the French VET system is the large number of degrees and qualifications and the fact that the learning outcomes required to obtain a qualification are defined by special commissions grouping representatives of employers, of trade unions and of teachers and trainers (*Commissions Professionnelles Consultatives* or *CPC*). These commissions define occupational standards, as well as educational and assessment standards (*référentiels de compétence*). Moreover, in order to take into account the new expectations in terms of skills and competences the qualifications are modified on average every five years. It should be noted that for certain specialities the assessment standards are considered too general and do not sufficiently take into account the competences required in the tasks of the jobs the students are preparing to enter.

The supply of qualifications provided by IVET in France offers 187 specialities in the *CAP* (level EQF3), 101 specialities in the vocational baccalauréats (EQF4), and 134 specialities in the *BTS* (EQF5). But such a large diversity does not lead to satisfactory entry to the labour market, and nor does it meet the expectations of employers. According to the surveys carried out in 2013 and 2014 by the Ministry of Education and by the *Centre d'Études et de Recherches sur les Qualifications (CEREQ)*, 57% of the students who had passed the *CAP* (EQF3) and 46% of students who had passed a *Bac Pro* in the LP (EQF4), were unemployed seven months after graduation. Moreover, three years after graduation about a third of the *CAP* holders and a fifth of *Bac Pro* graduates were still unemployed. Also, to find a job implies either accepting a job in a sector which does not correspond to the speciality of the qualification obtained and / or a job for which the individual is relatively highly qualified to enter. One reason for this is the lack of foresight studies integrated at regional levels, and the lack of dynamic interaction between supply and demand of qualifications other than over the short-term.

This weakness of the VET system is illustrated by the coexistence of a shortage of people with certain qualifications in selected economic sectors, while the number of students registered in some other qualifications exceeds their demand in the economy. Whatever the economic sector, about 20% of the *CAP* specialities attract more than 80% of the students, and at level EQF4 the three-year *Bac Pro* in metallurgy sector attracts around 40% students in the industry sector. In the tertiary sector, this concentration is even higher: two *Bac Pro* ('trade/commerce' and 'administration and finance') attract more than two thirds of students. Another aspect is a gender issue: in the production sector, 80% of students are men while in the tertiary sector 70% are women.

Another contradiction which is not easy to solve is that, in order to take into account the expectations in terms of general knowledge and transversal competences, the syllabus of the *Bac Pro* (the first objective of which is to prepare the student to enter the labour market) now has an increased share of general academic subjects (to make it more attractive to would –be students). Consequently there is a shortage of *Bac Pro* graduates in certain economic sectors. The 2016 report

of the Inspectorate of the Ministry of Education (op.cit.) explains this tendency with respect to French public opinion's traditional, hierarchic vision of education according to which VET has lowly position. Another drawback of the shift to increase the share of general knowledge subjects in the curriculum at the cost of more vocational ones, is the increasing difficulties some students have in passing the examinations.¹⁶¹

It appears that the most important feature of the evolution of VET over the last 30 years is the increasing level of educational attainment of the population (students and those in employment) in order to meet the new expectations of the labour market and thus increasing the prestige and attractiveness of IVET and CVET.¹⁶² This evolution was reinforced by the development of the recognition of informally acquired competences (*Validation des Acquis de l'Expérience*, or VAE) mainly since 2002.¹⁶³

Another significant change over the last 20 years have been the new approaches in terms of learning outcomes and a more individualised pedagogy such as that found in most other European countries.¹⁶⁴ There was not any modularisation in upper secondary IVET. It was introduced only in adult continuing education and recently in higher education for some '*brevets de technicien supérieur*' (BTS). Within a general tendency in France to adopt some flexibility in order to facilitate individual pathways, it is increasingly seen as a possible development in IVET.

In the recent period, a process of decentralisation has given more responsibilities to the regional level in the field of IVET as well as CVET. The law of 2014 gives regions authority over vocational training, career advice and coordinating job support policies: managing training policies, implementation of VET including apprenticeships for young people and adults and supporting small and medium size enterprises in their territory. This new law also created regional public training services and regional public guidance services. The dynamics created by this decentralisation process is an essential element of VET strategy that contributes to more effective public action by bringing the decision-making and management bodies close to local realities.¹⁶⁵

Recurrent campaigns aimed at improving the image of IVET have been organised over the past 30 years, in particular to promote apprenticeships. The employment rate for apprentices is higher than for those who obtained their qualification at the same level though another means. This is particularly true at level EQF3. Apprenticeships are highly valued by employers.

¹⁶¹ Asked in 2015 of a outstandingly efficient craftsman working in an art foundry in a suburb of Paris what kind of qualification he had obtained, he answered none because the CAP (level EQF5) required the mastering of mathematics that that was much too abstract for him...

¹⁶² Doriath B. & Cuisinier, J.-F (2009), *La rénovation de la voie professionnelle: organisation et contenus des enseignements*, IGEN-IGAENR, MEN, Paris; Doriath, B. & Cuisinier, J.-F (2010), *Rapport sur le suivi de la mise en œuvre de la rénovation de la voie professionnelle*. IGEN-IGAENR. Paris.

¹⁶³ Boudier Annie and Jean-Louis Kirsch (2007). 'The French VET system: like an unrecognised prototype'. *European Journal of Education* (42) 4; Bjornavold Jens and Isabelle Le Mouillour (2008) 'La validation des acquis d'apprentissage, un sujet d'actualité'. *Actualité de la Formation*, n° 21; Le Roux Annie (2013) 'La VAE dans les établissements d'enseignement supérieur de 2002 à 2011'. Note d'information n° 13-29. DEPP- MENESR, 2013; Cedefop (2014) *European inventory on validation of non-formal and informal learning: country report France 2014* (by Claire Duchemin)

¹⁶⁴ Cedefop (2008). *The shift to learning outcomes: conceptual, political and practical developments in Europe*, Luxembourg: Publications Office of the EU; Cedefop (2012), *Curriculum Reform in Europe, the impact of learning outcomes*; Jellab Aziz (2005a) 'Les enseignants de lycée professionnel et leurs pratiques pédagogiques: entre lutte contre l'échec scolaire et mobilisation des élèves'. In: *Revue française de sociologie*, Vol 46 (2) Jellab A. (2005b) 'Le travail enseignant en lycée professionnel et ses paradoxes' (The paradoxes of teaching in vocational education). In: *Sociologie du travail*, No 47; Michel D. et al. (2012), *Suivi de la rénovation de la voie professionnelle, la certification intermédiaire*, IGEN-MEN, Paris

¹⁶⁵ Cedefop (2016) *Spotlight on VET France*

Despite all the policy efforts to improve the attractiveness of IVET, this secondary track is still considered less prestigious than the general and the technological tracks. As was analysed recently, IVET is still attracting a majority of students who experienced difficulties in lower secondary education and/or who are from disadvantaged social backgrounds.¹⁶⁶

As a means of improving career guidance, an increasing effort has been made to produce statistical data about the entry of young people into the labour market seven months after leaving school (see below, the link between VET and the labour market). But, overall, all reforms of VET for the past 30 years have been based more on an educational rationale rather than a vocational one, partly because of the great diversity of expectations from employers. In particular, there is a large difference between the big companies which prefer more transversal competences and thus appreciate more the Bac Pro (EQF4), and the small and medium size enterprises which prefer practical know how and more specialised skills and thus prefer the CAP and qualifications at level EQF3.¹⁶⁷

4. Changes in VET enrolments

On the whole, the total enrolment of students in upper secondary IVET offered by the Ministry of Education has decreased slightly (-66 800 students) between 1995 and 2015¹⁶⁸. In 2015, there were 1.1 million students in upper secondary vocational education: 700,000 in LP and 400,000 apprentices in the CFA.

Given the structural changes of upper secondary IVET (completion of the *Bac Pro* in three years and changes to the *BEP*) the statistics about the evolution of enrolment are not easy to interpret. The data about completion of qualifications are much more significant.

Table 1: Evolution of the completion of the main upper secondary IVET qualifications

	1995	2000	2005	2010	2015
CAP (EQF3)	260 673	215 623	145 913	154 265	188 386
Bac Pro (EQF 4)	65 936	92 617	93 268	118 586	176 646
Baccalauréat *	425 563	423 923	413 400	413 182	442 198

*General and technological baccalauréat

Source: [www.education.gouv.fr/statistiques-Repères et références statistiques](http://www.education.gouv.fr/statistiques-Repères-et-références-statistiques) (each year from 1996 to 2016) - DEPP/Ministry of Education

Over the period, a decrease in the number of *CAP* graduates can be observed, the relative stability of the general and technological baccalauréat, and a dramatic increase of the number of *bac pro* graduates mainly after the reform of 2009 (*Bac Pro* completed in three years instead of four). The establishment of '*campus des métiers et des qualifications*' by the law on education of 8th July 2013 and the decree of 29th September 2014 may have had a further positive impact, but this cannot be measured yet. These types of new campuses are tightly related to 'competitiveness economic poles'

¹⁶⁶ CNESCO (2016) L'évolution de l'enseignement professionnel : des segmentations éducatives et sociales renouvelées ? Thibert Rémy (2015). Voie professionnelle, alternance, apprentissage : quelles articulations ? Dossier de veille de l'IFÉ, n°99

¹⁶⁷ Thibert (2015). Op.cit., p. 11.; Maillard Fabienne (2013). Les diplômes professionnels de l'Éducation nationale entre scolarisation et professionnalisation, Les dossiers des sciences de l'éducation, n° 20.

¹⁶⁸ Repères et références statistiques (2016) DEPP-Ministère de l'Éducation Nationale, p. 96 and DEPP (2016) L'état de l'École, Ministry of National Education.

in each region. They should improve the better adaptation of students' skills to those that can be expected to be relevant in the economy in the future.

Table 2: Evolution of the enrolment for preparing qualifications at levels EQF5

	1995	2000	2005	2010	2015
BTS		238 894	230 403	242 247	256 066
DUT	96 158	116 095	111 296	112 350	116 397

BTS: *Brevet de Technicien Supérieur* (two years of higher education)

DUT: *Diplôme Universitaire de technologie* (two years of higher education)

Source: *Repères et références statistiques* (op.cit.)

There has been a moderate increase in the number of students enrolling in studies preparing a EQF5 qualification.

Table 3: Evolution of enrolment in apprenticeship since 1995

	1995	2000	2005	2010	2015
EQF3	232 135	245 333	228 613	191 857	162 226
EQF4	41 327	69 355	86 609	123 018	104 880
EQF5	15 273	35 553	44 233	62 074	71 419
EQF6/ 7	4 477	15 633	26 404	49 331	67 357
Total	293 512	365 874	385 859	426 280	405882

EQF3: CAP, Mentions Complémentaires et BEP

EQF4: ac Pro and other qualifications at the same level

EQF5: BTS

EQF6: Licence professionnelle (professional BA)

EQF7: Engineering diploma and Master

Source: *Repères et références statistiques 2016* (op. cit.) pp.138-139

This evolution shows an overall trend of increasing numbers of enrolments in apprenticeships (except over the most recent period) and a general increase of the qualification level: a decrease of enrolment at level EQF3 and a very significant increase at levels EQF4, 5, 6 and 7.

The decision in 1987 to authorise the centres of apprenticeship (*Centres de Formation d'Apprentis - CFA*) to prepare all vocational degrees (and not only the CAP as before) provides the basis for an increase of the share of apprenticeships. This also stems from increasing power of the regions in managing the supply of VET. For example, the enrolment of apprentices in CFA increased from 213000 in 1985/86 to 294,000 in 1995/96, 362,000 in 2004/2005, and 406,000 in 2014/2015 (despite a slight decrease between 2011 and 2014).

5. The interplay between external and internal factors shaping VET

Demographic context

The population of France in 2017 is estimated to be about 67 million. France has experienced a high rate of demographic growth over the last 20 years, mainly because of a relatively high birth rate, even though it has been slightly declining over the last few years.¹⁶⁹ Despite this high birth rate, one can observe the increasing share of the older population (60 year-olds and over) and the diminishing share of the youngest population (0 – 19 year-olds). At the same time, the population of 20 – 59 year-olds has steadily increased which means that there have been no labour shortages. In the last few years the rate of global unemployment has been around 10%. The increasing flow of students leaving the education system has contributed to the high rate of unemployment among the 19-25 year-old population: about 24% in 2012 (23.4 in March 2017). About 50% of 18-24 year-olds are students and only a small number of them (15%) have a part-time job while studying. The rate of unemployment of unqualified young people is three times more than the unemployment of those having a higher education qualification.¹⁷⁰ But the main cause of unemployment is the economic context (the low rate of economic growth) and that the supply and demand of qualifications does not match sufficiently demand in the labour market. The annual net change in the population due to migration has remained rather stable between 1990 and 2015 – about 80,000 (after a peak in 2013 of 103,000) - and has had much impact on the labour market except for increasing competition for low-qualified jobs.

Table 4: Evolution of the structure of population in France by age categories

Age	Population at January 1st				Distribution by Age Categories (%)			
	0 - 19	20 - 59	60 - 64	65 and over	0 - 19	20 - 59	60 - 64	65 and over
1995	15,650,395	31,865,820	2,960,467	8,803,895	26.4	53.7	5.0	14.9
2000	15,626,640	32,541,228	2,768,623	9,571,659	25.8	53.8	4.6	15.8
2005	15,848,857	33,901,956	2,745,892	10,233,832	25.3	54.0	4.4	16.3
2010	16,010,535	33,997,230	3,873,473	10,731,701	24.8	52.6	6.0	16.6
2014	16,172,820	33,768,386	4,092,583	11,873,197	24.5	51.3	6.2	18.0
2015	16,362,262	33,780,309	4,083,339	12,227,648	24.6	50.9	6.1	18.4

Source: INSEE

Foresight approaches of the demand for qualifications by employers

As it is said in a recent report of the general inspection of the Ministry of Education, ‘the debates about the definition of the curriculum of VET pathways and the sharing of responsibilities between the Ministry and the representatives of employers and trade unions illustrate the difficulty to design an IVET [that sufficiently integrates] the theoretical and practical aspects of an education that would take into account the most recent technological evolutions.’¹⁷¹

As noted above, the 2014 annual survey carried out by the Directorate of Evaluation, Foresight and Performance (DEPP) of the Ministry of Education, showed that seven months after leaving school

¹⁶⁹ Pison Gilles (2011) ‘Deux enfants par femme dans la France de 2010 : la fécondité serait-elle insensible à la crise économique ?’, *Population & Sociétés*, n° 476; Pison Gilles (2017) ‘France 2016 : la natalité est en baisse’, *Population & Sociétés*, n° 547.

¹⁷⁰ France Stratégie/DARES (2017) *L’insertion professionnelle des jeunes* (www.strategie.gouv.fr)

¹⁷¹ IGEN/IGAEN (2016) *Cartographie de l’enseignement professionnel*, Ministry of Education, Executive Summary.

57% of CAP graduates and 46% of Bac Pro graduates were unemployed. According to another 2013 survey carried out by the Centre of Studies and Research on Qualifications (CEREQ), three years after passing the CAP, one third of the graduates were still unemployed. This is also the case for one fifth of Bac Pro graduates. All the surveys show that obtaining a job implies often to accept a position in another economic sector or even an underqualified one. A more recent survey in 2017 confirms these findings and the fact having a recognised qualification at levels 3 or 4 has a very positive impact:¹⁷² seven months after leaving school about 50 % of qualified young people had a job against only 34% for those who were unqualified.¹⁷³

Since a law in 1993, in order to improve the matching between the supply and the demand of qualifications, a process of decentralisation has considerably reinforced the power of regions for coordinating the supply of IVET and CVET. This law gave more power to the regions. In particular, each region had to design a regional VET plan for young people (under 26 year-old) - *Plan Régional de Développement des Formations Professionnelles des Jeunes, PRDFPJ* – in order to establish more consistency in the the supply of qualifications and a better matching with the current and future needs of the regional economy. Another law in 2002 extended this regional power to CVET for all adults. Then in 2004, these regional powers were extended to unemployed people and the regions must design (in concertation with the state and employer and union organisations) a medium-term plan of the supply of qualifications at regional level.

The Law of 24 November 2009 about career guidance and VET in a LLL perspective stipulates that the Regional Council must set up (in concertation with the state) common objectives that are defined in a contract of regional planning for developing VET - *Contrat de Plan Régional de Développement des Formations Professionnelles, CPRDFP* – which is designed from an analysis of the medium-term needs of the regional economy in terms of skills and competences. A new Law in 2014, while increasing the initiatives of the Regions, aims at improving the governance of VET by merging the National Council of LLL and the Higher Council of Employment into a National Council of Employment, Career Guidance and Professional Training: *Conseil National de l'Emploi, de la Formation et de l'Orientation Professionnelles, CNEFOP*. This new council is supposed to strengthen the concertation between the state, the regions, the social partners and other stakeholders¹⁷⁴ and has a role of evaluation of the public policies in this domain.

There is, however, still a significant mismatch between the supply of qualifications and the expectations from employers. According to many experts, this is partly due to the great number of qualifications that are too specialised. Moreover, despite the process of regionalisation, the national objectives set up by the Ministry of Education are still predominant with respect to the regional expectations of employers.¹⁷⁵

Productivity and international competitiveness challenge

Over the last 20 years, one of the main challenges has been to maintain a rate of economic growth that will reduce the high unemployment rate. The rate of growth of the GDP in the period 1995-

¹⁷² DEPP (2017) Note d'Information n° 17-12, Ministry of Education.

¹⁷³ Over the last 20 years the number of school-leavers without any recognised qualification has remained relatively stable around 150 000 despite many policy reforms.

¹⁷⁴ Law n° 2014-288 (5 March 2014) and Decree of 22 August 2014.

¹⁷⁵ Buisson-Fenet H., Gardon S. & Verdier E. (2011) 'L'État contre ou avec le territoire ? La formation professionnelle et universitaire en tension entre logiques centrales et volonté d'action des régions'. In IEP Strasbourg. Congrès de l'Association française de science politique, Strasbourg; Buisson-Fenet Hélène & Verdier Éric (2011). « Une régionalisation impossible ? La régulation des formations professionnelles initiales en France : concurrences institutionnelles et hiérarchie d'instruments statistiques ». *Sociologie et sociétés*, vol. 43, n° 2, p. 41-65.

2015 is much lower than during the after-war period (1950-1974) called the 'Trente Glorieuses' which had an average rate of 5.7% and a very low unemployment rate. The rate of growth was 2.1% in 1995, 3.9% in 2000 (peak), 1.6% in 2005, - 2.9% (depression) in 2009, 2.0 % in 2010, and 1.3% in 2015. Economists usually estimate that a rate of about 2% is required to reduce the unemployment rate.

In the context of globalisation, the rate of growth increasingly depends on the competitiveness of the economy which in turn depends on many factors including the investment in financial and human capital, i.e. the level of qualification of the labour force and the importance of research and development. One of the consequences of the search for improved productivity is the investment in computers, information networks, automatised production processes and robots, which have an impact on the structure of qualifications needed by enterprises: they require more highly qualified jobs, while at the same time requiring low-qualified jobs, and have an uncertain impact on other jobs depending on the economic sector.

The competitiveness of the French economy has declined from the 1990s and the public struggle against unemployment has mainly focussed on increasing the employment of low-qualified people and later on an objective of sharing employment related to the decrease of working time (law establishing the 35 hours per week). In this context, the decreasing productivity was seen by some authors and by the public opinion as a factor likely to reduce unemployment.¹⁷⁶ But the negative impact of this policy on the rate of economic growth and on the possibility to finance increasing health and social expenditures led the government stopping the policy about 10 last years ago.

Financing of VET

At a macroeconomic level, the total national expenditure for education is estimated at about 148 billion euros, which accounts for 6.8% of GDP. International comparisons regard only the percentage of GDP of the initial education spending: France is just above the average of OECD countries (5.3 % against 5.2%)¹⁷⁷. Initial VET (like initial education in general) is essentially financed by the State and the local authorities (mainly the regions), and to a lesser extent by enterprises and households.

In 2015, CVET expenditure was estimated at 14.3 billion EUR by the National Education Accounts which do not take into account as many types of expenditure as the Ministry of Labour. These expenditures are financed by enterprises (51.2%), Regions and other local authorities (21%), Ministries (11.6%) and households (6.2%).

Since a law of 1971, enterprises have an obligation to finance training sessions for their employees. Their contribution has steadily increased and in 2013 their financing of adult education was much higher than the legal obligation as they devoted 2.65% of their payrolls to adult education instead of only 1.35% in 1972. Over the last 40 years the number of employees involved in training has increased fourfold: 42.4% in 2014 against 11% in 1972. Participation, however, varies a lot according to the level of qualification of the employee and the size of the enterprise. For example, in 2013, nearly 60% of the engineers or technicians participated in a training session, but only 32% of the workforce in general. This proportion depends also on the size of the enterprise: for example, in 2013, 16.5% within enterprises with 10 to 19 employees (which spent 1.3% of their payroll on training) and more than 50% in enterprises of more than 2,000 employees (which spent 3.7% of their payroll).

¹⁷⁶ France stratégie (2016) Comprendre le ralentissement de la productivité en France – Note d'Analyse n° 38.

¹⁷⁷ DEPP (2016) L'état de l'Ecole, Ministry of Education.

There is a very high number of training providers of CVET. In 2013, according to the Ministry of Labour's statistics, there were 66,400 operators, 21,000 of which as a principal activity and 45,400 enterprises having developed training as a secondary activity. Just between 2007 and 2013, their number increased by 43% in a rather stagnant market. Such an evolution had the consequence of reducing the sales revenue of the majority of these training bodies, thus increasing their vulnerability. This vulnerability could still be increased by the development of the digital devices and new distance learning processes which can use economies of scale. The technological evolution should facilitate a concentration of the supply among fewer operators. The main actors of the ministry of education – universities, IUT and networks of secondary schools (called GRETAs¹⁷⁸) – will participate in this new technological trend of digital CVET, with other partners, particularly with AFPA.¹⁷⁹

The growing influence of the European Union

One also should mention the increasing influence of the European Union. Examples include the adoption of an NFQ taking into account the European Qualification Framework (EQF) and increasing efforts to increase the transparency of vocational qualifications in order to facilitate geographical and professional mobility throughout Europe and beyond. Moreover, France adopted approaches in terms of formulating learning outcomes at all levels of IVET and CVET, which increasingly makes general reference to the LLL paradigm, applies quality assurance devices and procedures, develops schools 'of second chance' for young adults who left school without any qualifications, and implements core key competences for compulsory education.¹⁸⁰

6. Conclusion

The main differences of the present French VET system with respect to the early 1990s relates to the following:

- the development of the vocational baccalauréat (*bac pro*)
- the *BEP* (Brevet d'Etudes Professionnelles) is not anymore a degree, it is just an intermediary qualification for the students preparing a vocational baccalauréat (*'bac pro'*) at level EQF4;
- the development of recognition/validation of informally acquired competences;
- the possibility through apprenticeship to acquire qualifications at levels 4, 5, 6 and 7; and
- the laws of 1993 and 2009 giving major powers to the regions in the field of VET.

Over the past 20 years, the main successes and main failures of VET policy have been:

- the steady development of *bac pro* and its relatively good perception by employers in some specialities;
- a better prestige and an increasing attractiveness of the *bac pro* after the reform allowing to pass this exam after three years the same as for the other types of baccalauréat;
- the creation of the *licence professionnelle* (vocational Bachelor) after 3 years of higher education;
- the creation of professional masters (after five years of higher education).

¹⁷⁸ GRETAs: Groupements d'établissements (secondaires) pour la formation continue des adultes

¹⁷⁹ AFPA: Agence Française de Formation Professionnelle des Adultes: national agency under the tutorship of the Ministry of Labour, which is through its network, the first provider of adult training in France.

¹⁸⁰ Halasz Gabor & Michel Alain (2011) 'Key Competences in Europe: Interpretation, policy formulation and implementation', *European Journal of Education*, vol. 46 (3).

It appears that the most important feature of the evolution of VET over the last 30 years is an increasing level of the average level of qualification of the population (students and manpower)

The main challenges that face the VET system and its capacity to cope with them are as follows:

- the relatively negative image of upper secondary VET despite all the efforts of successive governments to improve this image;
- for certain specialities the assessment standards are deemed too general and as not sufficiently taking into account the competences required by the real responsibilities and tasks of the jobs they are supposed to prepare for;
- the large diversity of qualifications does not lead to a satisfactory quantitative and qualitative entrance to the labour market and does not meet the expectations of employers, even in some traditional economic sectors like building, public works, tourism, etc.;
- this weakness of the VET system is illustrated by the coexistence of a shortage of people with certain qualifications in some economic sectors while the number of students registered in some other qualifications is exceeding their demand in the labour market; and
- a lack of foresight studies integrating at regional levels the dynamic interaction between supply and demand of qualifications beyond a simple short term vision adequate VET qualifications.

Another contradiction is not easy to solve: in order to take into account the expectations in terms of general knowledge and transversal competences, the syllabus of the *Bac Pro* (the first objective of which is an insertion of the labour market) has increased the share of general academic subjects but this has also been an incentive to pursue studies. Consequently there is a shortage of *Bac Pro* graduates in certain economic sectors. But, overall, all reforms of VET since 30 years have been based more on an educational rationale rather than on a really vocational one, partly because of the great diversity of expectations from employers. In particular, there is a large difference between the big companies which prefer more transversal competences and thus appreciate the *Bac Pro* (EQF4) and the small and medium size enterprises which prefer practical know how and more specialised skills and thus rather welcome the *CAP* and qualifications at level EQF3

Increasing the competitiveness of the economy implies a general effort of education in a lifelong learning perspective and particularly an improvement of VET to meet the new needs in terms of competences and providing soft transversal skills.

VET in France includes several sub-systems which have broad common goals in the development of lifelong learning but different operational objectives and different organisational structures. Even within IVET at upper secondary level there are two different pathways: mainly school-based learning delivered in lycées professionnels, and mainly workplace-based through apprenticeships. While the Ministry of Education and the Regions play a major role in IVET, other ministries, the chambers of trade and industry and other chambers, as well as private enterprises also play a major role in CVET. One important challenge for the future will be to improve basic transversal competences and soft skills through IVET and CVET in order to better prepare students and adults for a fast changing society and increasing economic competition requiring more professional and geographical mobility.

As for IVET, the vocational lycée (LP) is facing three main challenges: (i) reducing absenteeism and early-leaving is a central priority; (ii) the renewal of pedagogy requires an effort to improve initial and continuous training of teaching staff; and (iii) the articulation between the education provided in LP

and apprenticeships should be improved through more exchanges between LP and CFA, allowing for apprenticeships for students in LP.¹⁸¹

As Paul Santelmann underlined recently¹⁸², VET must be perceived as a complementarity between three processes: basic IVET, informal skills acquired during the whole life, and training sessions at crucial junctures in a person's working life. The role of the enterprises is important. They must become involved with VET in particular in order to optimise CVET. To a large extent, the effectiveness of VET depends on a balanced integration of formal training, informal learning at work and certification of acquired skills and competences. Such a culture finds new processes in some start-ups where new employees recruited and apprentices are well integrated in a perspective of sharing know-how and practical knowledge among the whole staff. Another evolution can be observed within big companies that create their own campus taking advantage of the working experiences of their staff.

Last but not least, one major challenge is to develop and improve the recognition of prior learning and informally acquired competences. In France a complete required legal framework exists, procedures and financing resources are available, but despite some progress there are still issues to be solved both for the least qualified people (too complex procedures) and for higher education qualifications (resistance of some teaching staff reluctant to deliver a degree based mainly on experience and practical skills).¹⁸³

¹⁸¹ Jellab Aziz (2014) *L'émancipation scolaire : Pour un lycée professionnel de la réussite*. Toulouse : Presses universitaires du Mirail.

¹⁸² Santelmann P. (2017) Newsletter AFPA, June 2017. Paul Santelmann is the Director of foresight of AFPA (the first provider of CVET in France).

¹⁸³ Michel Alain & Looney Janet (2015) *Certification of Informally Acquired Competences in France*, Bertelsmann Foundation.

Italy

Alberto Vergani and Simone Rossini

I. Introduction

Italy faces severe challenges to its economic performance and has been affected by a longstanding period of stagnation. In the last 12 years, it has been ranked in the bottom five amongst European Union Member States in terms of real GDP growth a total of nine times.¹⁸⁴ Skills mismatches and poor school to labour market transitions have contributed to the development of the present situation. The European Commission, through its initiatives over the last two decades, has tried to steer VET policies and provision throughout Europe. The effects of which became visible in Italy in the most recent definition of national standards and the categorisation of formal, non-formal, and informal learning; but the Italian VET system is not yet at the level of the most advanced Member States.

Legislative changes have affected Italian initial VET¹⁸⁵ since the system was first created in the 1950s, when training was targeted mainly at young people with low skill levels. The system was later decentralised (to the Regions), to take into account the differences that existed in the country (e.g. in terms of employment levels) and reflect what was originally envisaged in the Italian Constitution. Moreover, VET provision was increasingly diversified and the duration of apprenticeships was extended over the following three decades. Since the 1980s, Italy's VET system started to face economic challenges including de-industrialisation, the role of work for social inclusion, the adaptation to technological change, and the mission of providing life-long learning to avoid skills obsolescence. Regional VET, however, did not fully live up to these challenges, and in the 1990s it entered a period of decline which lasted until the 2000s, when it became part of the national training and education system and started to reflect its current form.

Regional VET is composed of three main segments (all of them available via apprenticeships as well as the school-based route):

- three and four year (3+1) programmes;
- post-secondary higher technical specialisation programmes; and
- post-secondary higher technical programmes.

Today the regional system covers a modest number of participants (both in absolute and in relative terms, compared with upper secondary national vocational programmes and national technical programmes), and it is strongly concentrated geographically. In comparison with other European countries, common factors that could affect the role of the system (such as demographic and macroeconomic challenges) seem to play a minor role. The major challenge faced is technological change, given that skills mismatch remains widespread in Italy. The VET system continues to focus on providing skills for the manufacturing sector (characterised by low to medium skilled workers) and SMEs, normally characterised by low R&D investment and a non-strategic approach towards innovation. For these reasons, internal factors such as the division of competences in the VET system at the regional and national levels remain amongst the most relevant in shaping it. The *La Buona Scuola* reform (2015), although largely focused on upper secondary education, also gave

¹⁸⁴ Source: Eurostat.

¹⁸⁵ In accordance with WAI's conclusions, VET system in Italy will be identified with initial VET under Regions' and Autonomous Provinces' formal responsibility.

regional initial VET the capacity to invest in strengthening the cooperation with companies; which is potentially the most important way to address its challenges.

2. What is meant by VET and the national VET system

The most direct VET definition for Italy is the *Istruzione e Formazione Professionale* (IeFP) system, which exactly translates to Vocational Education and Training. Yet, as explained in the deliverables linked with WAI of this project, a broader definition includes segments that relate to what is generally meant by VET at the European level. Following a broader definition, the current Italian system is composed of the following blocks: three and four year programmes, on one side, and post-secondary higher technical programmes (lasting 1-2 years depending on types), on the other. The final qualifications of all the above mentioned programmes may also be achieved through apprenticeships. In more detail:

- IeFP programmes (*Percorsi triennali e quadriennali di istruzione e formazione professionale*) last three or four years under the remit of the Regions and Autonomous Provinces, as a consequence of the latest reforms in 2011. They are characterised by national level standards concerning basic, as well as technical and vocational skills for both, Certificate (three years) and Diploma (one additional year), and for granting nationally valid final certifications. They are targeted at learners aged 14-17 years, and 17-18 years respectively; and
- post-secondary higher technical training, i.e. IFTS (acronym for *Istruzione e Formazione Tecnica Superiore* - High Technical Specialisation programmes) and ITS (*Istituti Tecnici Superiori* - Higher Technical Institutes¹⁸⁶ which deliver higher training programmes). These programmes are organised by Regions and Autonomous Provinces in cooperation with the Ministry of Education following territorial plans updated every three years. They were last reformed in 2008¹⁸⁷, and award a higher technical specialisation certificate and a higher technical education diploma respectively. They target people from 18 years onwards.

As already highlighted, the previously mentioned programmes may also be undertaken through apprenticeships. In particular, the so called ‘Type 1’ apprenticeship (*Apprenticeship for vocational qualification and diploma, upper secondary education diploma and high technical specialisation certificate*¹⁸⁸) allows the achievement of all the initial regional VET qualifications except those of the higher technical programmes, which may be obtained through the so-called ‘Type 3’ apprenticeship (*Apprenticeship for Higher Training and Research*¹⁸⁹). Apprenticeships have been affected by legislative changes seven times since 2003, and are currently regulated by a legislative framework introduced in 2015.

Similarly, regional VET has seen several reforms in the past 20 years, often spurred by EU initiatives (see section 3 on the VET system’s historical development). These changes have led to a new role for VET, which has moved from being a part of active labour market policy, to part of the national education and training system. This has meant that VET students began to pursue learning objectives on top of employment ones. Reforms also led to a broader provision of training within regional initial VET, involving both public and private providers, thus allowing upper secondary schools to take part in VET provision. This horizontal expansion was coupled with a vertical one, which resulted in students spending more time within the system. This new framework of strengthened VET led to

¹⁸⁶ See below for details.

¹⁸⁷ DPCM from 25th January 2008.

¹⁸⁸ In Italian *Apprendistato per la qualifica e il diploma professionale, il diploma di istruzione secondaria superiore e il certificato di specializzazione tecnica superiore*.

¹⁸⁹ In Italian *Apprendistato di Alta Formazione e Ricerca*.

the broadening of the upper secondary provision of VET, and to the gradual activation of a post-secondary system which allows students to reach a further qualification level outside the university system, and is in strong cooperation with the business sector.

Finally, in regard to qualifications, the reforms of the last 20 years led VET to cover a wider range of categories within the European Qualification levels, namely: at level 3 - through three-year qualification programmes and apprenticeships; at level 4 - through VET Diploma programmes, apprenticeships, and Higher Technical Specialisation programmes; and at level 5 - through Higher Technical programmes and apprenticeships.

3. The historical development of VET in Italy

The most recent history of regional initial VET in Italy can be divided into three main periods:¹⁹⁰

- From 1950 until the mid-1980s: in which initial vocational training developed as a specific training supply positioned outside of the mainly State controlled school system. The responsibility for programming and managing initial vocational training was transferred from the State to the Regions¹⁹¹ in order to increase the proximity of supply to local labour markets and to improve the response to the economic systems' needs.
- From the mid-1980s until 2000: in which the initial vocational training targeted at under-18s lost its relative weight, in terms of the share of participants, as a consequence of European Social Fund (ESF) funding. This funding allowed the Regions to widen their training supply to include new target-populations. One direction was targeting students to deliver an upper secondary education certificate through post-secondary level vocational training. Another direction was the involvement of *vulnerable target groups, such as early school leavers*. And the third direction – which has retrospective importance - was the involvement of employed and unemployed adults through continuous vocational training and lifelong learning schemes. This development was down to: the availability of large funding resources; the growing importance of meeting the training needs of new groups; and the need of Regions to strengthen their position in the institutional arena through increasing the volume of training activities under their direct responsibility.
- From 2000-present day: in this last period, many reforms affected initial vocational training and all of them were aimed – with different emphasis and solutions – at definitively placing initial vocational training within the national education system. In addition, all reforms have been oriented towards giving the initial regional vocational training a similar image and formal recognition to other education pathways implemented within the national education system. In this last period, the development and institutionalisation of tertiary level non-academic initial vocational training, in cooperation with upper secondary education schools, has and continues to receive a lot of attention.

Focusing on the 1950-mid to 1980s period, the main steps in which the initial VET system evolved may be summarised as follows.¹⁹²

- The starting point of initial so-called *out-of-school*¹⁹³ vocational training is represented by Law 456/1951 which funds training targeted at young people. It drew on a fund, established in

¹⁹⁰ Ghergo F., “La Formazione Professionale regionale iniziale: alla riscoperta di una identità”, in: Nicoli D. (Ed.), *L'intelligenza nelle mani. Educazione al lavoro nella formazione professionale*, Rubbettino, Soveria Mannelli, 2014, pp. 269-412.

¹⁹¹ The path was different for the Autonomous Provinces of Trento and Bolzano due to their specific institutional status (but their situation will not be here described in detail).

¹⁹² Ghergo, pp. 308-309.

1949, that was previously used only for adult vocational training. The reason for this shift was that “after the end of the Second World War [the] young [in Italy] were the most critical population in [the] labour market because they were used to very early entry [into the] labour market without professional skills and with a very low level of basic skills”¹⁹⁴ (education was compulsory for five years only at that time).¹⁹⁵

- The courses targeted at young people were, for about 30 years, the main form of vocational training in Italy.¹⁹⁶ The courses were practical in content and method, lasted, on average, from two to eight months, and could be followed-up with advanced courses of more or less the same length. Under the responsibility of the Ministry of Labour these courses were delivered by organisations or associations which were public as well as private (but different from State schools).
- Traditionally, vocational training targeted young people and the number of participants rose from about 100,000 in 1956 to 275,000 in 1970. Additionally, the duration of courses was extended to two to three years. Public vocational schools implemented vocational courses that were tailored to specific professional programmes and shaped by national vocational education programmes. Public funding became available and led to the establishment of a growing number of organisations fully dedicated to providing vocational education.

Some very important legislative and institutional modifications occurred during this period: the first of which was the transfer of vocational training responsibility from the Ministry of Labour to the Regions (in 1972 and 1977); the second was the definition of the national-level framework legislation (in 1978). These two institutional changes are crucial for understanding the policy direction in initial VET in Italy and the consequences they had on the system in the following years. As for the transfer of responsibility to the Regions, this resulted from the Italian Constitution (Art. 117) which gives *ordinary* Regions the competence on “artisan and professional education”. The establishment of the regional vocational education system started in Italy in 1970 (25 years after the adoption of the Constitution) and the process – which was technically and politically very controversial – lasted for at least five years.

It is important to note that the Regions’ competence on “artisan and professional education” was limited to *out-of-school* vocational training only, and did not include the State-owned vocational schools. The division between the initial vocational training courses allocated to the Regions and the initial vocational education programmes allocated to the State’s responsibility, originated in a “dichotomy and parallelism between the two sectors”¹⁹⁷ which continued throughout the history of Italian VET. This caused a “complex and confused situation” that led to the political influence of the vocational training or the vocational education system respectively, being altered. The outcome was – and largely still is – “a competition between the two systems which challenge[s] for the same spaces, funding and students [and] also leaning on the support of the two relevant Ministries” (Ghergo, p.285). The Ministry of Labour supports the regional vocational training and the Ministry of Education focuses on the national vocational education programmes/schools.

¹⁹³ “Extra-scolastica” in Italian describes a system that is formally not included in the national education system.

¹⁹⁴ Ghergo, p. 308.

¹⁹⁵ It is important to highlight here that apprenticeship was introduced in Italy in those years (Law 25/1955) and it was defined as a channel for training young who were employed (training *through* work) while the just mentioned training was *before* entering work (in fact, in Italy it was called “formazione pre-lavorativa”).

¹⁹⁶ Isfol, *La Formazione professionale come interfaccia tra scuola e lavoro*, Quaderno di Formazione, 1/1974, p. 5, Rome.

¹⁹⁷ Ghergo, p. 284.

Moving on to the 1978 national framework legislation on vocational training (Law 845/1978), the main innovations were as follows.:

- Vocational training was defined as a measure belonging to active labour market policies aimed at supporting the quantitative and qualitative matching between labour demand and supply.
- Regions were made responsible for the programming of vocational training on the basis of labour market and employment data, as well as based on the socio-economic objectives established at both the national and regional levels.
- Interventions were implemented by a system of public and private training organisations.
- Regions were made to define the general framework for training content in accordance with some basic rules: pathways should be short and structured in training cycles (no more than four cycles, each lasting for no more than 600 hours); they should include alternance schemes; should be consistent with local labour markets' needs; and should refer to occupational and/or professional qualifications.
- The target-populations of vocational training were not only to be young unemployed people or students who were not enrolled in the national education system, but also adults both employed and unemployed. In 1981, however, more than 75% of the participants in regional vocational training courses were under 18-years-old.

Finally, when analysing the period 1950-1980s, it is important to highlight that regional VET had to fulfil different roles in response to the socio-economic context of the time. In fact, in the 1950-1960s, initial vocational training was conceived as an instrument for social development and for multiplying employment opportunities; while in the 1970s, the crisis of the Italian economic system (mainly as a consequence of the *oil-shock*) gave vocational training the main task of supporting skills matching between labour demand and supply.¹⁹⁸ Moving to the 1980-1990s, the role of vocational training continued to change and adapt to the modifications in the socio-economic context, for example:

- at the beginning of the 1980s, with de-industrialisation and the emerging so-called 'knowledge-economy', vocational training (also initial VET) was used to strategically support economic development;
- at the end of the 1980s, long-term unemployment emerged as a challenge together with the marginalisation of socially vulnerable groups in the labour market: vocational training was utilised as an instrument for achieving equal opportunities as well as social and occupational inclusion;
- in the mid-1990s, the economic system encouraged vocational training to "adapt" employees to the modifications derived from organisational and technological changes, on the one side, and from a *quality culture* perspective, on the other (the two elements are considered to be crucial to competition in global markets); and
- finally, at the end of the 1990s, vocational training focused on the *mission* to support individuals in developing lifelong knowledge and competences in order to improve employability and active citizenship.

¹⁹⁸ Ghergo, p. 310.

In this period, an important element to mention¹⁹⁹ is the development of a course targeted at young people with at least upper secondary education degrees, or students attending the last classes of their upper secondary education. It involves a segment of non-academic initial training, traditionally not available in Italy, consisting of courses that generally last no more than one year (if full time) and are highly specialised in terms of content and sector. The introduction of this additional supply since the 1980s is strictly linked to the *focus* of the experts' debate on vocational training in those years, a focus which was on the "credibility and responsiveness"²⁰⁰ [to economic systems' and participants' needs] of vocational training itself. Another issue, linked with the *quality* of training outcomes, is represented by the differences that exist among regional systems in terms of general structure, the number of students, intervention architecture and duration (for the same final qualification), learning outcomes, final formal qualifications, and relevance of the cooperation with the economic system. The existence of such differences is a long-standing element of vocational training in Italy.²⁰¹ The importance of flexibility and the adaptability of vocational training to local labour markets' needs was stressed by the Regions, which were responsible for vocational training. This largely turned into a region-based *Tower of Babel* which was particularly evident in the under-18 target courses, in comparison to State upper secondary education.

This situation was one of the two²⁰² main reason for the decline of initial vocational training in the 1990s. About 170,000 students were enrolled in initial vocational training in 1989/1990 which decreased to around 100,000 ten years later. This decline was also, for some, initiated by the vocational training system reform introduced in 1997 (through Law 196/1997) which explicitly targeted the system toward the employed (adult or apprentices) and therefore towards continuous vocational training.

The last and most recent period, which started in 2000, is the one in which – in accordance with the three main reforms of the whole education system implemented between 1999 and 2008²⁰³ - the regional initial vocational training:²⁰⁴

- fully and formally becomes a part of the national education and training system (being recognised as able to allow under-18s to fulfil, through the participation in its courses, the so-called *Right-Duty of Education and Training*)²⁰⁵;
- increased the articulation of its structure in terms of both duration of training paths (and corresponding final qualifications to be achieved) and the entry level of students' qualification;
- defined, in 2011 and 2012, a national common framework, also in terms of learning outcomes, for the final qualifications to be achieved in the regional systems (solving in this

¹⁹⁹ Hazon F., *Introduzione alla formazione professionale. Manuale per docenti e operatori*, La Scuola, Brescia, 1986.

²⁰⁰ Ghergo, p. 320.

²⁰¹ Isfol (Ghergo F., ed.), *Caratterizzazioni regionali del sistema di formazione professionale*, Angeli, Milano, 1980 and 1990.

²⁰² The other being the intense discussions related to initial vocational training during the 1990s in relation to the several projects of reforming upper secondary education (where one of the most controversial points was the so-called short cycle that is the provision in upper secondary education of both three-year and five-year courses with different final qualifications (with the three years courses being mainly those belonging to regional initial vocational training.

²⁰³ The so-called reforms (from the names of the Ministries of Education in charge) Berlinguer (1999), Moratti (2003) and Fioroni (2007).

²⁰⁴ See also Isfol, *XIV Rapporto di Monitoraggio delle Azioni Formative realizzate nell'ambito del Diritto-dovere di istruzione e formazione*, Rome, 2016.

²⁰⁵ In Italian *Diritto-dovere di Istruzione e Formazione*.

way the problem represented by the regional differences in final qualifications, durations, learning outcomes);²⁰⁶

- established regulations and mechanisms in order to improve the possibility of horizontal and (above all) vertical pathways from regional vocational training systems to upper secondary, tertiary and academic education;
- increased the relevance, in terms of curricula hours, of the alternative schemes as a way to qualify the methodological profile of training pathways as well as to improve the relation between training and working contexts, also with the aim of “formally recognising the value of the *work culture*”;²⁰⁷ and
- included upper secondary schools in the group of organisations entitled, under specific schemes, to deliver regional initial vocational training courses.

In quantitative terms, there were about 330,000 (2015) students enrolled in both three and four year vocational training courses, according to the most recent available data,. Among the modifications which affected regional vocational training in the last 10 years, the definition of nationally standardised upper secondary and post-secondary level training paths was probably the most relevant. As a result of this definition, the structure of the system (three-year certificate courses, four-year Diploma courses, Higher Technical Programmes²⁰⁸, High Technical Specialisation courses²⁰⁹) defines in principle, a vertically integrated technical-professional system in which work-based learning through alternance schemes – also in the form of apprenticeships – is central (covering between 30 and 50% of formal training hours depending on the segment). This system, which has been strongly promoted in recent years, mainly through Law 107/2015 (the so-called “Buona Scuola” law), is envisaged to progressively become the Italian way to a *dual system* in regional VET. This is particularly relevant because of the regional VET’s two main focuses:

- ensuring that the initial certification and diploma courses largely match, also when achieved through apprenticeship, the needs of young people (and their families) for strong professional training which is able to support short-term employment, but also the social inclusion needs (through training and then employment) of a significant number of young students who experienced educational failures in upper secondary education; and
- making sure that post-secondary level programmes (High Technical Specialisation and Higher Technical courses, also when implemented through apprenticeship) largely match the needs of companies and local economic systems to have a young and qualified workforce which is trained through a strong partnership with a training institution.

This implies, for all the segments, the following working directions:²¹⁰

- To improve the funding systems (at the moment from national, regional and EU funds) in order that it is directed towards training providers that can demonstrate their ability to deliver high quality and effective training.

²⁰⁶ 22 final qualifications were defined for 3-years courses and 21 for 4-years Diploma courses.

²⁰⁷ Zagardo G., Riforma Moratti: che cosa era, che cosa è, in: *Confronti*, 1, gennaio-aprile 2007, pp. 31-32.

²⁰⁸ Established in 2008, they have a duration of 2-3 years: they are under the joint responsibility of the Regions/AAPP and the Ministry of Education.

²⁰⁹ Established in 1999, they have a duration of 800-1000 hours and refer to a set of national-level professional profiles. They also are the joint responsibility of the Regions/AAPP and the Ministry of Education.

²¹⁰ Isfol, 2016.

- To continue improving the system through the progressive definition of training and service standards, training institution accreditation, the implementation of professional profiles repositories, through monitoring and evaluation systems (which are also relevant to funding and learning outcome related issues)
- Strengthening the matching between regional/local VET systems and regional/local needs (a matching which must have different forms and mechanisms depending on the segment of regional VET in question).
- To increase the knowledge and attractiveness of regional VET amongst adults who, being parents or decision makers in organisations, may support the enrolment of young people in VET courses.

4. Changes in VET enrolment

As shown in the previous sections, Italy underwent a large number of changes which affected regional initial VET. A comprehensive tracking system for the number of people enrolled in the system is not in place. Additionally, the available information is fragmented; overlooks completion figures; and does not account for the changes that have happened in the last two decades. Moreover, going back to the 1990s, the information is only available in hard copy rather than online. With these limitations in mind, Figure 1 shows the participation in vocational educational in Italy during the period 2008-2013, where there are data for three-year certificates and four-years diploma programmes, and for apprenticeships.^{211,212,213,214}

Figure 1 also includes data for High and Higher Technical programmes for the four years available, figures that do not go above 2,000 units (while the number increases in the following years: see below). For these reasons, Figure 2 is presented on the number of people enrolled in VET certificate and diploma programmes.

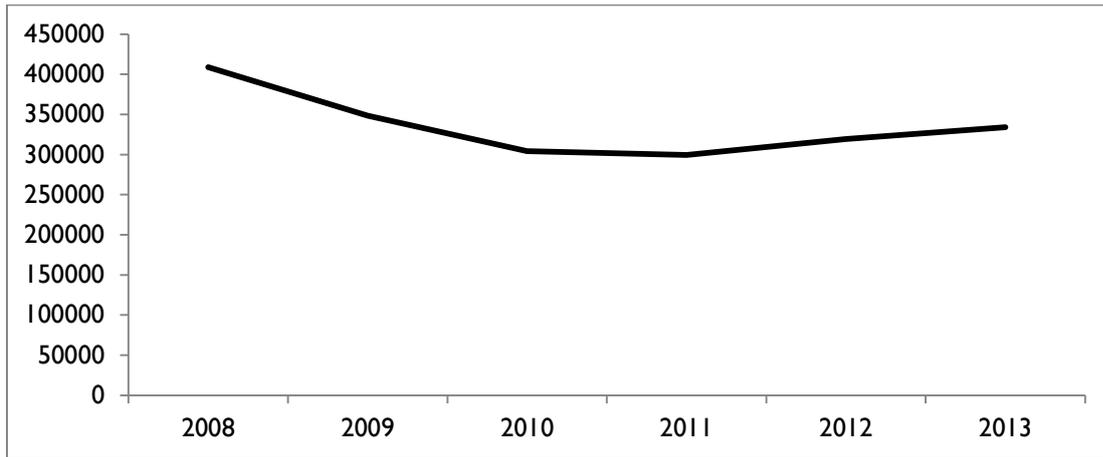
²¹¹ Now INAPP.

²¹² As for Type 3, relevant only for Higher Technical Programmes, there are exact figures only for 2013 and therefore before the actual legislative framework (in 2013 they were 508, out of an overall VET total enrolled of 334,197 apprentices in the same year).

²¹³ Legge 24 giugno 1997, n. 196 "Norme in materia di promozione dell'occupazione." (article 16). Available at: <http://www.camera.it/parlam/leggi/97196l.htm> Article 16 refers to the categorization in the apprenticeship system introduced by decree 276 of 2003 (Decreto Legislativo 10 settembre 2003, n. 276). "Attuazione delle deleghe in materia di occupazione e mercato del lavoro, di cui alla legge 14 febbraio 2003, n. 30"). Available at: <http://www.camera.it/parlam/leggi/deleghe/03276dl.htm>

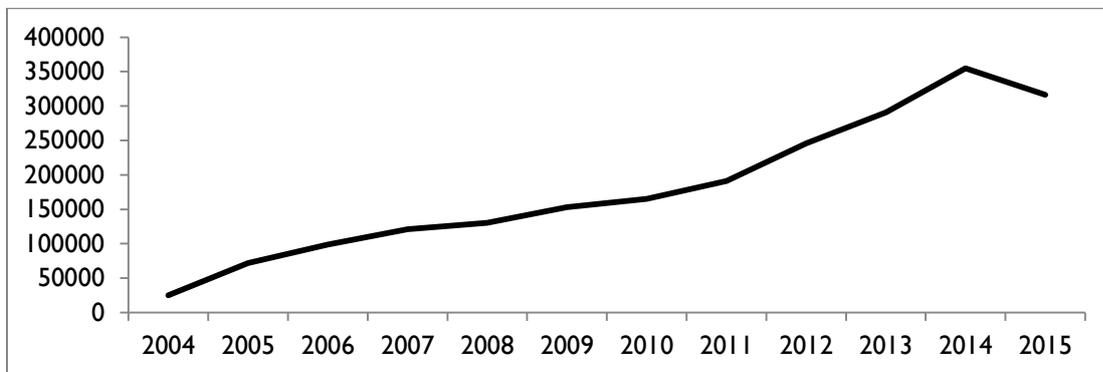
²¹⁴ For 2013, the year for which we have the figure broken down in apprenticeship of type 1, apprenticeship of type 3, and contracts stipulated under law 196 from 1997, these are 3405, 508, and 37672.

Figure 1: Participation in regional vocational education in Italy 2008 - 2013



Source: own calculation based on data from ISFOL and Italian Ministry of Education.

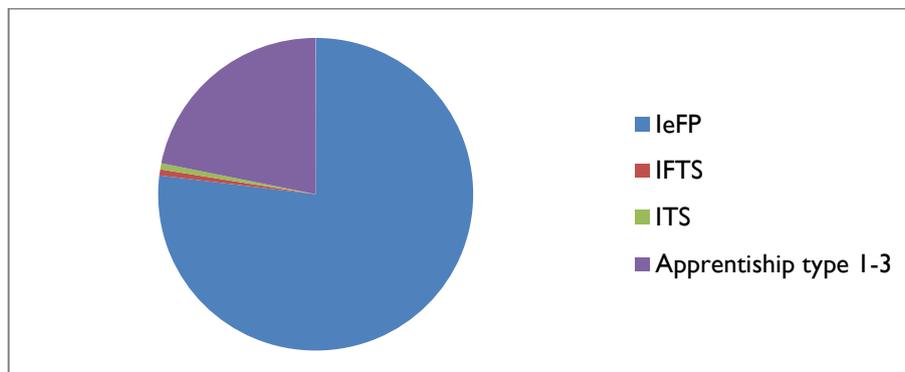
Figure 2: Participation in VET Qualification and Diploma programmes 2004 - 2015



Source: Isfol

As for the breakdown of the learners among the different forms of VET provision, Figure 3 shows the situation in 2012, the only year for which data are available for all regional VET segments, and the three different types of apprenticeships.

Figure 3: Learners enrolled in 2012



Source: own calculation based on data from ISFOL, and Italian Ministry of Education

It is possible to have detailed data for 2013,²¹⁵ from which the age composition of people attending regional initial VET in Italy can be derived. The age is 14-17 for three year programmes, and 17-18 for Diploma programmes; while apprenticeships cover people between 18 and 24 years old (52%), people between 25 and 29 (38%), and people over 30 (9%).²¹⁶

As for the balance between enrolments in different stages of the education path, regional VET in Italy is overwhelmingly focused on the upper secondary level. Assuming there is a stable figure for those enrolled in Higher Technical programmes (which are at the post-secondary level), this would represent 1-3% of the total of enrolments, leaving the rest in upper secondary (lower secondary being fully under the education system).

5. The interplay between external and internal factors shaping VET

To adequately frame the contents of this section, which analyses how the initial VET system has been able to respond to a range of challenges, it is important to highlight that the system discussed is limited in terms of participants, and is geographically concentrated in some areas (Regions) of Italy. Firstly, around 330,000 students (Isfol, 2016) were enrolled in regional VET Qualification and Diploma courses, while there were around 548,000 students enrolled in upper secondary national vocational education programmes and 849,000 in national technical programmes (Istat, 2017: data updated at 2015). As for the geographical concentration, almost 70% of Diploma course students are based in Lombardy (Isfol, 2016) and approximately 78% of students in Qualification courses are located in eight specific regions and almost 50% in four specific regions (Piedmont, Lombardy, Campania and Sicily).

The demographic challenge

The demographic challenge has had an indirect influence on shaping initial VET or, at least, this influence has always been in the background. The influence of demographic change is visible in the form of – generally hidden and undeclared - competition between upper secondary schools and VET providers for students interested in or oriented towards vocational education/training. With reference to this point, it must be highlighted that previously (around 2000), there were enough participants in the system aged 14-15 years old.²¹⁷ In recent years, however, the stagnation in enrolment rates experienced in national vocational education²¹⁸ (which since 2011 has not issued any more three-year certificates) has partly been compensated by the increase in regional VET three-year certificate courses.²¹⁹

Within this framework, the changes in the demographic structure of the Italian population at the macro level (Istat, 2016) is reflected in the following trend (focusing on most recent years):

- in 2002, the percentage of the population under 14 was 14.2% while it is 13.7% in 2016;
- the percentage of the population between 15 and 64 was 67.1% in 2002 but 64.3% in 2016; and

²¹⁵ Please note that in 2013, before the latest reform, Type I apprenticeship was covering less people.

²¹⁶ ISFOL, “Verso il sistema duale – XVI Monitoraggio sull’apprendistato”, 2016. I libri del Fondo Sociale Europeo.

²¹⁷ Also because the attractiveness of regional IVET was much lower and mainly focused on students who failed in attending five-year national upper secondary education programmes.

²¹⁸ Whose number of students constantly reduced since 2002/2004 passing from about 560,000 to about 517,000 in 2014/2015 (Isfol, 2016).

²¹⁹ Whose students increased from about 25,000 in 2003/2004 to about 316,000 in 2014/2015 (Isfol, 2016).

- the population over 64 was 18.7% in 2002 but it is 22% in 2016.

These changes affected regional initial VET, only for certificate and diploma courses, and in a very marginal way. A demographic related modification which, on the contrary, is progressively affecting the regional initial VET at upper secondary level²²⁰ is the the growing number of young immigrants - mostly second generation - entering the upper secondary education system (with the obligation, in accordance to the Italian legislation, to stay in the system until the achievement of a three-year regional VET certificate or to 18-years-of age). According to Istat (2017,), in 2015 students from immigrant families²²¹ in upper secondary education accounted for about 9% of the total population (651,000 out of 7,000,000), whilst there were 14% in VET certificate courses and 11% in diploma courses (Isfol, 2016 but 2015 data). Compared to conventional upper secondary education, regional initial VET, therefore, seems to be more attractive to young people who are from immigrant families

Regional initial VET dealt, especially over recent years, with the previously mentioned aspect through a strong investment in improving the levels of formalisation (mostly in terms of training and learning standards), institutionalisation (through the definition of national level frameworks and standards), external visibility (through the intense use of dual schemes), and vertical integration (that is a defining mechanism for students passing from VET Qualifications to Diploma, and then to post-secondary VET). The improvement of the connection between initial VET and local labour markets, as well as employment opportunities is another way initial VET is accounting for demographic challenges.

The technological challenge

In Italy, the expression “technological change” traditionally has a very specific meaning and focus in the context of regional initial VET courses (a meaning which has usually been, with some exception, quite far from the strategic and high-tech conception generally used in EU policies or in think-tank documents). Only in recent years, with the institutionalisation of the post-secondary VET segment,²²² has the issue of actively promoting and supporting technological innovation fully entered the regional VET system (the most recent example is the link between this segment and the so-called Industry 4.0 Programme, established in 2016 by the Italian Government).

These considerations pertain to a national situation where “skill mismatch... is widespread” (OECD, 2016).²²³ The most recent national survey of hiring programmes by companies (covering the first quarter of 2017)²²⁴ reports that 22% of hiring will include high-skilled profiles (managers, specialised occupations, technicians), 41% with intermediate profiles (clerks and services/trade occupations), and 37% with low-skill profiles. In terms of formal qualifications, university graduates will form 17% of total hiring, upper secondary education graduates 41%, and VET graduates 16%.²²⁵ For those with no specific qualifications, the figure is the remaining 26%. Finally, focusing on hiring sectors, the most relevant for those with VET qualifications are tourism and food services, personal services, construction, trade and metal industries. For upper secondary education graduates, the sectors are largely the same but the ranking is different, with trade in the first position and *transport and logistics* as fifth instead of the metal industry.

As already underlined, the meaning of “technological challenge” for the regional initial VET system has always been very peculiar in consideration of the prevalence of micro and small companies in the

²²⁰ And therefore excluding Higher Technical Programmes and High Technical Specialisation courses.

²²¹ That is with both parents not Italian.

²²² Which not casually is shared between Regions/AAPP and the Ministry of Education.

²²³ OECD Skills Strategy, *Building an Effective skill strategy for Italy*, Scoping WS Briefing Pack, 2016.

²²⁴ Excelsior, *2017 First Quarter Bulletin*, Unioncamere, Rome, 2017.

²²⁵ Here only three-years VET courses are included: it is not clear where VET Diplomas owners and post-secondary VET qualified are counted.

Italian economic system (95% of Italian companies have less than 10 employees and 81% of Italian employees work in a SMEs). In these companies, with some exceptions, informal and non-strategic innovation tend to take place. In addition, Italy has a longstanding weakness in terms of both dedicated funding and public policies, in developing and supporting technological innovation. The cases of worldwide manufacturing companies that excel in innovation are using private investment provided by the companies themselves. Only in recent years have dedicated instruments been put in place by the Government (national programmes supporting innovation, funding for innovation in SMEs, Industry 4.0 Programme, Italian research and young talents programmes) ²²⁶ but the distance between Italy and the other countries covered by the *Ambrosetti Innosystem Index*²²⁷ is still relevant for funding and “innovative environment”. A regional based analysis of innovation, using the same index, shows that only Lombardy – among all Italian regions – is listed in the top-20 European Innovative Regions while three others (Emilia-Romagna, Piedmont and Latium) are in the first-50.

The regional initial VET’s answer to the technological challenge is based, at least since 1999, on the development and implementation – in accordance with the Ministry of Education - of High Technical Specialisation courses and of Higher Technical Institutes. In fact, with a focus on Higher Technical Institutes, they are institutionally dedicated to six technological areas which are considered to be strategic for Italy. These areas are as follows: Energy Efficiency; Sustainable Mobility; New Technologies for Life; New Technologies for Made in Italy (mechanics, fashion, food, houses, and company services); Innovative Technologies for cultural assets and activities; and Information and Communication Technologies.

5.3. The macroeconomic environment (the economic cycle)

In Italy, the main macroeconomic feature affecting regional initial VET is youth unemployment. The rate of unemployment for 15-24 year olds rose from 21.2% in 2008 to 40.1% at the end of 2016 (with a split between regions: 54.1% in the South and 30.6% in the North). In addition, 24.3% of Italians aged under 30 years were not in education, employment or training (NEET with a big difference (again) between northern and southern regions (16.9% in North and 34.2% in South), thus making Italy the worst performing country after Turkey and Greece²²⁸ . The *question* of youth unemployment is partly linked with a long-standing issue of regional VET’s target-populations and especially relevant in low/middle class populations where there is a shortage of training opportunities which are *able* to support entry into employment.

Other macroeconomic issues experienced in Italy can also be mentioned ,but their interplay with regional initial VET is very indirect (mainly for the volumes and the profile of the VET system). The most important are:²²⁹ the low growth, in recent years, of the Italian economy (caused by rigidities in the product and labour markets; insufficiently developed capital markets; a structure of taxation weighing excessively on productive factors, especially labour; the weaknesses in corporate governance and management as well as in public administration; and civil services inefficiency); the stagnation, since 1990, of labour productivity (“wages do not reflect sector productivity and tend to rise in sectors in which productivity falls in relative terms, generating an *allocative failure*”);²³⁰ and the under-utilisation of labour (with Italy displaying “very low participation rates despite the increased

²²⁶ Ambrosetti/The European House, *L’ecosistema per l’innovazione. Quali strade per la crescita delle imprese e del Paese*, Milan, 2017, p. 29

²²⁷ Which includes Canada, Chile, South Korea, Finland, France, Germany, Japan, Israel, United Kingdom, Singapore, Sweden, Swiss, United States, Estonia and Spain

²²⁸ OECD, 2016, p. 13.

²²⁹ See e.g. OCDE, 2016, p. 5 and foll. (see also the references presented in the document).

²³⁰ OECD, 2016, p. 6.

flexibility of labour market regulation” and the penalisation of “specific target-groups of the population” namely women, young people and the long-term unemployed).²³¹

Taking into account these macro-economic issues, regional initial VET answers both the supply and demand side. On the demand side, which means on the side of companies, the main strategy is to formally include companies in organising the delivery of VET courses (the most evident and structured example is represented by the Foundations to be established for the design and implementation of Higher Technical Programmes also considering that, as already highlighted, these Foundations are progressively implementing also High Technical Specialisation courses). Within this, the definition of course architectures characterised by a relevant number of hours (between 30% and 50% depending on cases) is to be implemented in real workplaces using work-based learning methodologies with the responsibility given to companies to manage and develop *curricula* content and learning outcomes. This point is relevant also on the supply side, which considers courses and students in workplaces which are recognised as *another* learning environment that is as relevant as a training institution. Another supply side relevant strategy at the institutional level is to constantly adapt the contents of VET courses –within the framework of nationally valid repositories of final formal qualifications – to locally relevant and significant changes and trends in skills and qualifications demand.

Other relevant factors

There are three other relevant factors that must be briefly mentioned. The first one is represented by the institutional (formal) structure of initial VET. The most recent (and important) reforms that also cover upper secondary education, which date back to 2001 and 2007, were assigned to the State in the form of *Upper Secondary Education* (five-year programmes belonging to lyceums, vocational schools, technical schools) and to the Regions in the form of *Vocational Education and Training*.²³² This structure, which left the State with the responsibility for five year vocational training programmes (a solution not fully consistent with the nature and the profile of these courses), finally defined a clear and stable boundary for regional intervention in the upper secondary education segment. A second factor is the relationship between regional initial VET and upper secondary education, on one side, and universities, on the other. Here the question is whether regional VET historically played an important role in managing early school leaving through, especially for certificate and diploma courses, giving students who dropped out a *second chance*. In the same way, post-secondary initial VET is expected to significantly contribute to the improvement of the technological skills and competences of young people who do not attend university or do not meet university entry requirements. On this issue, regional VET has always shown – and partly still demonstrates – a kind of ambivalence. In fact, by developing a *second-chance* system through regional VET, a sense of inferiority in comparison with State upper secondary education and attending university develops. Regional VET, however, has developed the capacity to successfully work with challenging and vulnerable groups as well as the reputation of being an important resource for individuals, local communities and the economy (it must be mentioned that early school leaving is mentioned by OECD as one of the obstacles in “developing skills in Italy”).²³³ Finally, the last factor is the reduction of funding dedicated to regional initial VET: the most recent data refers to 2014²³⁴ and shows a 20% reduction of allocated funding (mainly due to the reduction in national and EU funding). This reduction resulted in the closure of many training institutions, especially in the less affluent and prosperous areas of Italy, which therefore caused additional damage to the young people who live in

²³¹ OECD, 2016, p. 6.

²³² “Istruzione e Formazione Professionale” (IeFP) in Italian.

²³³ 2016, p. 9.

²³⁴ Isfol, 2016, p. 14

those areas. In other areas, mainly in Northern and Central Italy, Regions (and Autonomous Provinces) tried to compensate for the loss of national and/or EU funding and, in some cases, linked part of the funding to the achievement of pre-defined learning and employment outcomes. As for training institutions, the quest for a higher efficiency – also through the increase of training volumes and vertical integration among different VET segments – becomes an important survival strategy.

6. Conclusions

The Italian VET system has been affected by a considerable number of reforms since its creation. This has become even more apparent over the last two decades, during which the EU and the internal *social demand* exerted a growing pressure to modernise the system and take into account the drivers of change that are currently affecting advanced economies.

Yet the system's changes seem to be more concerned with internal factors inherent to its history, such as the concurrence between the state and the regional level in providing VET, the perceived second-rate status surrounding the system in comparison with the general educational pathway, or the reduction of funding affecting it in recent years (also linked with the shrinking of the younger cohorts, the ones most interested by VET provision in Italy). Taking into account the demographic, technological and economic challenges presented in the previous section, two alternative scenarios for the future could be developed.

If the regional initial VET system continues along its current trajectory, the most likely outcomes will be the following:

- a concentrated system (in terms of students) in some areas of Italy; mostly involving those around the age of 18; whose growth in terms of participants will be possible only in the post-secondary segment;
- the development of post-secondary segment will be largely dependent on local situations and on the availability of adequate funding; a system in which the strong cooperation with companies and production/services organisations in general will progressively become the distinguishing feature;
- a system where apprenticeship is going to develop mainly with reference to three-year certificate and four-year diploma;
- a system which will continue to be unstable and poorly institutionalised because it lacks continuous, long-term funding.

If regional initial VET is strongly and fully implemented, the responses to the challenges mentioned in Section 5 (responses which largely identify more or less recent reforms), the most likely outcome will be a system largely structured in accordance with a *real* dual scheme (although with Italian features) in which apprenticeships may also find a stable place and relevance as one of the schemes to implement *duality*; which, thanks to its strong and structural cooperation with companies and production/services organisations, may offer concrete employment opportunities to young people who prefer not to enter upper secondary education or university programmes. Alternatively, they could involve the maintenance and improvement of training/learning standards, service and delivery standards, repositories and inventories that would lead to an increased qualitative level of programmes where the vertical integration within the different regional VET segments would mean, for students, the possibility to go through vocational and locally rooted training paths which start with the three-year certificate programmes, continue with the one-year diploma and end up with post-secondary High/Higher Technical programmes. This could contribute to the effective implementation of a life-long learning system in Italy, which could also be effective in its horizontal

connections with upper secondary education (especially technical and vocational programmes), on the one hand, and with continuous and adult vocational education, on the other.

Estonia

Triin Roosalu and Ellu Saar

I. Introduction

“Rapid developments in Estonian society after the collapse of the Soviet regime at the beginning of the 1990s brought about the need to reorganise almost all social institutions including the vocational education system (Neudorf 1995, 1999; Annus et al. 2000; Loogma 2004). At the beginning of the 1990s, the main development issue was to adapt the system and individual vocational schools to suit the dramatically changed economic environment, as it had transformed from a planned to a market economy. The employment structure in Estonia had changed dramatically, involving a rapid decline in the industrial and agricultural sector and the emergence of the services sector (Loogma 2004, 33). Grootings (2009) has described the fundamental reforms in Post-communist transition countries as systemic, involving changes that are both system-wide and system-deep. The reforms were system-wide in the sense that they required changes to all aspects of institutional organisation. In vocational education, this meant that all the building blocks from delivery to assessment and quality assurance needed to be renewed. Moreover, reforms in vocational education were also system-deep, as they required the development of new relationships between the schools, the labour market and private enterprises (Grootings 2009, 505). The Soviet dual system was transformed into the school-based system. During the last two decades, several reform initiatives have been introduced in vocational education and training in Estonia. Strategic directions have involved the development of occupational standards and a qualifications system. Secondly, the transformation of the vocational school network has been carried out for efficiency reasons, on the one hand, and in order to align it with the changed structure of the economy in Estonia, on the other. This has involved mergers of several former vocational schools and the formation of regional vocational training centres (Loogma 2004, 77). In 2013, there were 41 vocational training institutions (VET schools) in the Estonian VET system (Kutsehariduse Standard 2012), which organise vocational training for people without basic education, based on basic and secondary education (2–4.level based on ISCED 97, UNESCO, 1997) and enable people to obtain qualifications on levels 2–4 in the European Qualification System. In the Estonian context, important factors in 2011 included the fact that when all school curricula needed to be aligned with the national curricula, teachers were in very uneven positions in terms of awareness of the development process and the substance of national curricula. Some teachers (e.g. service field teachers) were already acquainted with the new principles as well as the curricula development process from the mid-1990s, while others (e.g. metalworking teachers; media; and music teachers) only became involved in the process very recently (Loogma and Tafel-Viia 2011). Moreover, participation in top-down initiated reform-related work groups and networks, and international and inter-sectoral networks, has supported the professional development of the vocational teachers involved and the adoption of the changes (Tafel-Viia et al. 2012).”²³⁵

“Estonian VET is part of the full education system in Estonia and is mainly allowed (available) after compulsory education. So, it stands between basic and higher education. Main purpose of VET is to provide for a person both social and professional readiness for a working on certain occupation and also understanding of the context of continuous training in the lifelong learning process. Estonian VET is school-based includes theoretical and practical studies and these proportion dependent on level of VET training. Theoretical studies take place usually at school and practical training at school

²³⁵ Sirje Rekkor, Meril Ümarik & Krista Loogma 2013). 'Adoption of national curricula by vocational teachers in Estonia', *Journal of Vocational Education & Training*

workshop and in the enterprises. Estonian VET is accessible and open for everyone who is interested about vocational education. For that reason there are created different categories of vocational training (curricula) for examples: VET without the requirements for basic education, VET based on basic education, VET secondary education and VET based on secondary education or just continuing education. Also forms of studies are various, such as full-time or non-stationary study, workplace-based or school-based study. Estonian VET system strategy is to respond flexibly to the needs of the labour market and to ensure a competitive workforce for Estonia (VET is seen as one tool for developing Estonian economy and reduce unemployment) and also for international labour markets. So cooperation between different parties (with other levels of education, enterprises, social partners etc.) is important to provide better responding, quality and also image of VET. There is purpose to increase the proportion of students who enter into VET system after basic school. The problem is that in society vocational education has still seen as dead-end in education life. This understanding comes still from soviet time. So, many adults after graduating higher education come to VET school.”²³⁶

2. What is meant by VET and the national VET system

Vocational education is a system of knowledge, skills, experience, values and behavioural norms which are required for working in a certain area of specialisation, for obtaining certain qualifications and for applying for and retaining a certain position, and the acquisition and improvement of that system creates the prerequisites for successful professional activity (Republic of Estonia Education Act, 1992, §12) *Vocational training* means the aggregate of learning, teaching and organisational activities the purpose of which is to enable the acquisition of vocational education. (Vocational Educational Institutions Act, 2013, §2). In WAI, the following explanation was provided for EE: "In society mainly formal vocational education is understood through the term of "kutseharidus" or "kutseõpe", translated to vocational training. It means more practical learning and training to acquire needed knowledge and skills for certain work. In society, it is not well known how VET is divided (i.e. between IVET and CVET) and which different educational levels are there presented and which different opportunities are provided for learning. There exist understandings that VET is an evolving field in education and provides a good occupational preparation for work/job but for own relatives it is not suggested (Pärtel, Petti 2013)".²³⁷ In public understanding, *kutseõpe* (vocational learning/training) usually includes students at formal vocational education institutions, including adult students, as in Estonia they are taught in the same schools; to some extent it may include also trainings (non-formal education) that are organised by the same formal education institutions. Nevertheless, it effectively excludes learning outside of vocational schools. For CVET, the terms that are used rather translate to "continuous learning" (*täiendõpe*) or "re-learning" (*üंबरõpe*), therefore these terms are closer to VET - not continuous education, though, as the emphasis is on learning. There is no specific one term that would really cover CVET in wider sense, either in the meaning of (job-related) training or adults participation in IVET or other forms of formal education. There are two other terms that are used in the sense of including any learning occurring as adult/beyond initial formal education: adult education (this mainly has a connotation of non-formal education and training, and perhaps more geared towards the liberal adult education); and lifelong learning (mainly understood as adults continuing their educational careers). This differentiation is reflected also in the division of work in the Ministry of Education, where the department of adult education does not really concern itself with adults in formal education (vocational or general) but mainly increasing participation in non-formal education

²³⁶ Cedefop Changing VET: WAI Estonian case

²³⁷ Sirje Rekkor, Meril Ümarik & Krista Loogma (2013). 'Adoption of national curricula by vocational teachers in Estonia', *Journal of Vocational Education & Training*

3. Historical context – the direction of travel

The developments in VET system have to be understood in the context of changes in the higher education system since 1990s. Higher education has gone through four major phases during the post-socialist period in Estonia (Saar and Roosalu, forthcoming):

1. The first period, 1988–1992, can be considered a period of chaotic, individually and institutionally driven changes;
2. The second period, 1993–1998, saw a major expansion of the higher education system in combination with the development of legal frameworks and quality assurance mechanisms;
3. The third period, 1999–2005, indicated a wave of reforms, including following the principles of the Bologna Process;
4. In the fourth period, from 2006 onwards, new measures are being put in place to strengthen the (international) competitiveness and sustainability of the shrinking higher education sector.

We are inclined to say that the processes of the immediate post-socialist period may have had more impact on the current situation in Estonian HE system than the socialist period.

The changes that are most prominently affecting also VET developments are outlined in the following.

Classification of HEIs - Between 1995 and 1998 a series of laws were passed to regulate all sectors of higher education. These were the 1995 University Act (paving the way for the 1996 Standard of Higher Education), the Institutions of Professional Higher Education Act (1998), the Private Education Institutions Act (1998), the Vocational Education Schools Act (1998), the University of Tartu Act (1995). Within Estonian higher education legislation each institutional type has its own law.

Expansion/consolidation of HE - Due to the system liberalisation there was educational expansion and the Number of HEIs grew significantly until 2000s. After this, when new quality regulations and accreditations were put in place, some were closed (including some as bankrupt) while others merged over time with those existing till now. The number of HEIs has been relatively stable over last years.

Changes in HE sectors - Between 1989 and 1991, professional higher education was established as a second HE sector in Estonia. During this period several former specialised secondary schools under pressure from economic and political insecurity started to form a new sector in Estonian higher education – professional higher education modeled after German “Fachhochschulen”. This created a binary divide in Estonian higher education with new curricula introduced in 1991, resulting in introduction of MA degrees; 1995 the system was changed into 4+2 and in 2001 – 3+2.

Establishment of private universities (also privatization of public HEIs) - Gorbachev’s administration legalised cooperative enterprises in 1986. In this form the first private higher education institution in Estonia – the Estonian Institute of Humanities was established under the auspices of the Estonian Association of Writers in 1988. In 1989 the second private higher education institution, the Estonian Business School (EBS), emerged. These were professional HEIs, but soon were changed into universities; later, EIH was merged with Tallinn university, while EBS is to this date the only private university offering education in all three levels: BA, MA and PhD. No public HEIs were privatized in Estonia, however, some major further education and training centres (previously part of the then qualification systems) were privatized and private HEIs were established.

HE financing - Between 1992-1995 a sharp decrease in public funding not only made universities dependent on private sources of financing, including tuition fees, but also raised serious concerns about equity of access to higher education. The Ministry of Education tried to find a legal compromise that would allow universities to charge fees for some groups but at the same time maintain the official free-of-charge higher education policy (Tomusk 2004). The government introduced a formula funding mechanism: money was distributed to universities according to student places, weighted by fields of study and level. As a result the student admission quota was renamed to state order allowing universities to admit an additional 20 per cent of students on a fee-paying basis. The actual number of fee-paying students, however, exceeded this percentage. In the early 1990s the majority of students were publicly funded; the situation at the end of the 1990s was that half of all students are fee-paying. The proportion of students paying tuition fees has increased from 7 per cent in 1993 to 54 per cent in 2004. This situation was reversed in 2012 when HE became tuition free for those studying full-time and in Estonian language. A new needs-based student support system was introduced at 2013/2014. Students from less privileged families can apply for study allowance (~75-220 EUR per month) when studying full-time and in Estonian. Students who started their studies in 2012/2013 or earlier and study full-time, can also apply for study allowances (55.93 euros per month). However, full time study is required to maintain the free study place and support. Therefore, VET system, which never introduced the fee, was rather competitive until 2012, but less so afterwards – except that fulltime studies do not have to be maintained, thus making the VET programmes even more suitable for non-traditional, adult and working students.

Content and organization of the study programme - In the early 1990s **Russian-language tracks** in Estonian higher education were closed. Although it is possible to study in Russian at several private universities, the students enrolled in these institutions have to pay tuition fees. In total, 11 per cent of all students in higher education are studying in Russian, predominantly in private higher education institutions. The OECD experts (2007) conclude that Russian-speaking school leavers find themselves at a disadvantage accessing the main higher education institutions as these institutions give instruction mainly in Estonian. On the other hand, **more English language instruction** studies are designed in the higher education level, as the fees cannot be collected from Estonian-language mediated programmes, thus offering an incentive for the universities to internationalise their target groups. VET institutions, however, mostly do not have any of this pressure, and there are some (limited) numbers of programmes available still in Russian language tracks in Estonia.

2001 a reform of Degree Structures in accordance with the Bologna Process was adopted. The transition to new study programmes in the Estonian higher education institutions took place in the academic year of 2002/2003. The new system of higher education has two main cycles, following the bachelor master model of the European Higher Education Area. The study programmes of some fields have been integrated into a single long cycle. Universities provide professional higher education, bachelor's, master's and doctoral programmes. Professional higher education institutions and some vocational education institutions provide professional higher education. A professional higher education institution may also provide master's programmes.

Of these more or less structural changes, perhaps the fact that vocational schools started providing HE programs was more important for the changes in HE sector than other processes, even if opening up the HEI system for private institutions, as well as offering opportunities to study for fees in the public universities (which used to have only few state funded study places with high competition) was relevant, too. Shift to 3+2 degrees, as well as equalising earlier degrees, was important shift in shortening time spent in education system. Introduction of part-time programmes, evening, weekend and modular studies has helped make the system more student-centered. Wider

HE access to nontraditional students, encouraging more adult learning in HEIs, has normalized dual roles of working while studying – including fulltime working while studying fulltime, with many students having professional careers in parallel with learning careers.

From this background, the changes in VET system can be outlined more closely.²³⁸

“The Soviet VET system in Estonia, an extremely centralised and tightly related to centralised and planned economy, was completely interrupted in the process of the transition to market economy. During the transition the changes in the different levels occur: at system level the transition from Soviet dual system into the school-based system took place during very short time. This transition completely changed the connections between schools and enterprises. Structural changes inside the new system and systemic adjustment of VET system with the economy/employment, general education and other systems have been almost permanent and more or less continuous.

1. In **1987-1988** the transition period in Estonian education begun. The quickest changes were evident in general education where powerful movement of teachers of general education started to innovate the curricula with the main aim to de-ideologize the curricula. The innovations in education did not concern much the VET schools and VET teachers until the dramatic changes in the labour market begun about 1990-1992.
2. In the course of VET reforms different stages can be identified according to the steps taken to regulate and standardize the system and different actors' (public VET schools, other stakeholders) roles and cooperation patterns. First, beginning of **1990s until 1996/1997** almost single determining factor of change was liberal adjustment of VET schools to dramatically changed environment, incl. labour market (in terms of re-orientation from Eastern markets to Western markets, rapid decline of industrial and agricultural sector and emergence of service sector and consequently, changes in the employment/occupational structure etc.). As well, the previous system of practical training was completely destroyed because of extensive restructuring of enterprises, incl closing, privatisation and reorientation of enterprises. In this period, the state intervention was minimal and social partners (employers, unions) were too weak to initiate and support reforms in VET. However, since mid-90s the EU programs (PHARE) for supporting reforms and negotiations between VET schools and social partners started. In 1995, the first legislative act regulating VET schools activity has been compiled (“Kutseõppeasutuse seadus”). At the same time the process of restructuring of the VET schools' network begun in negotiations between social partners. In this time, the main reasons for school network restructuring were the incompatibility of schools' curricula, infrastructure, and regional location with the demand of new emerging economic structure. During the very short period of time the VET system in Estonia has developed from Soviet highly centralised “distorted dual” system into a school based one, which strongly contradicts the previous “Soviet dual” model.
3. In **1997**, which can be considered as beginning of the second stage of the reforms in VET, the first Development Plan for VET has been compiled in the partnership between state, employers and other social partners. Later on, building up the legislative framework for VET continues. Important milestones in the process included the adoption of the Professional Act in 2000, which served as a legal basis for the development of professional/vocational standards and implementation of the qualification system as agreement between state, employers and unions/professional organisations. Estonian qualification system is competence-based and made up of the development of

professional standards and the issue of professional certificates. In this period, the restructuring of the VET schools' network continues with the aim to adjust it according to restructuring of economic and employment structure and make it more effective. In the economic structure the share of employment in industrial and agricultural sectors has decreased dramatically and the service sector has widened very quickly. The idea behind this process was to establish multifunctional VET regional centers which would be specialized according to the needs of local employment, for both young and adult learners. As a consequence of the implementation of the PHARE programme 13 Pilot schools were selected, most of them became later the VET regional centres. The number of schools diminished considerably - some schools were closed, some schools were merged together.

4. The beginning of the next, third stage of VET reforms began in **2000/2001** with the development and implementation of vocational / professional standards. Vocational standards should be taken into account in the schools' curricula development and in attribution of vocational certificates. Qualification system supposed considerably contribute to the recognition and legitimation of individuals' prior/lifelong learning as it is competence-based and different types of learning and work experience can be taken into account attributing qualifications. In 2006 also the standard for VET teachers has been legally established. In this initial phase the right to take qualification exams and issue certificates was given to different organisations (mainly to professional associations) and also to some VET schools. Generally, school-leaving certificates of VET did not automatically give qualification to school-leavers. Gradually, the share of VET schools having right to take qualification exams and issue also certificates has risen.
5. For the fourth stage of VET reforms one can take the process of creating and establishment of national curricula in VET. The process started from about **2004/2005**. The 44 national curricula in different domains of study have been created and legislated by 2008 and 2009. Even the regulation of VET curricula started earlier, until this stage, there existed only the schools' curricula. The central regulation of VET school curricula was minimal: the share of practical training in curricula was prescribed, the school curricula should correspond to vocational / professional standards. Contradicting to the first, liberal adjustment period, later the processes of change in VET in Estonia have led to **stronger and stronger regulation and standardisation.**"²³⁹

4. Changes in enrolment

Access of VET graduates to other learning opportunities has **increased** since 1990s, for three main reasons:

- better availability of opportunities for **NFE** (for anyone in the labour market) due to wider provision and more competition;
- reorganising of **VET in formal education** system so that there are more options for continuing at higher levels;
- easier access to **general academic programmes** at the level of higher education (due to both general educational expansion and wider provision of study places, lower entrance

²³⁹ Loogma, K (2010) 'The situation of VET teachers in Estonia (with the Integrated summary of interview findings)'. In: Kirpal, S (ed). *Changing roles and competences of VET teachers and trainers. Final Report, Vol 2 (AO/ECVL/RLAR/TT-Changing-competences/014/08)*. National Summaries of Interview Results. Institut Technik+Bildung, University of Bremen, pp 97-116

thresholds, more use of AP(E)L, and probably also the fact that majority of fulltime HEI programmes in Estonia are free (whereas most of these places were available for a fee earlier).

Also, the global economic crises of 2010 made more NFE available for **unemployed** (as by that time, EU funds had already become available to Estonia, these were used to make up for the low contribution to LLL from state budget).

In general, despite the demographic changes, the **number of IVET students** has remained about the same since 2007, indicating shift towards **more adult students**. While in 2007, 69% of students in IVET were under 20 years, in 2016 - 48% was, and the share of those above 25 had increased from 14% to 34%. This has also been supported by the policy of the VET schools to make up for the shrinking cohorts by targeting new groups. The share of those in their **higher level VET programme** (*rakenduskõrgharidus*) remained at about 4%; among them, the share of those under 20 years decreased from 23% to 6%, and those above 25 years – increased from 48% to 68%. With influx of adult students shapes the classroom discussions, it also has the potential to shift the **desirability and esteem of VET** as an educational opportunity. Some adult students (who have time for schooling) choose these programs not only because of their job related retraining and improved employability, but also as their serious **leisure activity** (for example, longer study programs as a way to spend and organise time meaningfully) or to develop specific personal projects (such as for example in landscaping).

Share of adult students (those above 25) in higher education (that can be considered part of their CVET experience) **has generally increased since 2006**: it was 38% in 2006, and 47% in 2016. This has to be seen together with three other trends:

- overall **decrease in student numbers** (there were 68 800 in 2006, and 47 800 in 2016);
- removal of **study fee** from full time, Estonian-language instruction studies in 2012/2013;
- and, somewhat related, increasing the share of English language instruction programmes at higher education level (eventually, while in 2006 just 1% of HE students in Estonia were foreign students, in 2016 their share was 8%).

In Estonia, traditional and non-traditional students (e.g. adult students) **study in the same programmes** together, thus influx of adult students has made an impact on the classroom. As even full-time studies can take place in the evenings or alternating long weekends, it is common for full-time students in higher education to **have jobs** in their field of interest, as well as odd jobs to support their studies.

Important for Estonian case, the share of those students who study in their IVET programme **Estonian as a foreign language** decreased from 18% to 11%. Together with the shift towards higher age among learners this may indicate the fact that among adult VET students, those with Estonian as their mother tongue are over-represented. Higher education institutions have much wider availability of programmes with English as language of instruction.

It has to be understood that studying in VET programmes is (and has been) **without fees** for students, while studying in HE programmes usually entailed a fee for most students since the 1990s until 2012/2013. Thus, potentially the HE programmes gained more relevance for certain target groups of adult students after this.

5. The interplay between external and the internal factors shaping VET

Responses to demographic changes

Challenge of lower birth rates started to be immediately felt in Estonian education VET system only after the maturing of the largest recent cohorts, those born in 1987-1990 due to the national awakening, leading to the regaining of independence of the country. First, in 1990s, with the widening educational opportunities (due to the increase of private providers and paid education) at the higher education level as well as large increase in non-formal education opportunities in specific sectors VET remained the viable chance for (1) early school leavers and (2) those secondary school graduates who could not afford to, thought themselves to be academically disadvantaged, or did not care, to continue at the higher education level. The others mostly chose academic higher education. Partly as a result, education system was restructured so that VET was also made available at the higher level, as applied higher education. Thus, at first, in 1990s, the VET cohorts started shrinking, but not too heavily. However, by 2010, when the largest cohorts had already had their point of entrance to the post-compulsory education, VET schools started **targeting other groups** more actively. This included adult students, a target group also discovered by the academic higher education institutions. To the benefit of VET schools, most adults to be considering additional degree qualifications at the time already had some higher education, therefore considering pursuing studies in new but practical field (such as accounting, landscaping, gardening, sewing, ets) for other than job related reasons was among their preferences.

Number of schools in formal education system providing VET to adult learners can be considered equal to the number of VET schools and higher education institutions with VET programs, since adults join traditional students in these programs. The trend has been twofold: reorganising existing schools upwards; launching new private schools (1995-2005) and then mergers of these with other private schools or public schools. Also, there has been **consolidation** of public VET schools, that were inherited from the Soviet era, by creating regional structures. General trend of inverted U in the number of schools means that the number is in 2015 about the same as in 1995, while the number of VET schools has decreased by half, compared to 1995.

- Vocational schools: 1995 – 85, 2005 -61, 2015 – 44
- Public general secondary schools and higher education institutions with vocational education programs: 1995 – 4, 2005 – 4, 2015 – 5
- Private schools providing vocational education programs: 1995 – 7, 2005 – 14, 2015 -7
- vocational schools providing (applied) higher education programs: 1995 – 1, 2005 – 7, 2015 – 2
- Applied higher education (public): 1995 – 8, 2005 – 8, 2015 – 8
- Applied higher education (private): 1995 – 10, 2005 – 13, 2015 – 7

While relevance of formal education institutions as learning provider for adults **declined during economic boom** (and increased again during the **global crisis of 2010**), the number of adult students in formal education remained relatively stable over the period: the number of those working age adults who did study (over 4 weeks before the survey) at any formal education institution (general school, vocational school or higher education institution) changed little (it was 5100 in 1997, and 5100 in 2014). However, the formal education institutions' **importance as a site for learning** for adults decreased from 16,5% in 1997, to 9% in 2014; both patterns can be assumed also to hold for VETs.

On the other hand, a new target group has been identified for VET schools, as the access to VET by early school leavers and other disadvantaged groups has been made easier by laws and regulations, thus diversifying student body in the classroom.

The challenge of ageing society, extending worklife, and ageing workforce in changing society: Lifelong learning paradigm has been heavily supported by the state policies and strategies. This has had an impact on adults' chances for continuing their studies on VET degree programmes as well as on other CVET options. Adult Education Act (1993, new version in effect from 2015) differentiates between formal education, work-related training and - opposed to this - liberal adult education, regulating adults' access to employer support in terms of both covering costs of the training course as well as allowing dedicating (unpaid) working time. Namely, for the employee's work-related training, if the employer decided to support it, the employer does not have to pay additionally income tax, which does apply in the case she agrees to cover the costs for formal education and non-job-related training courses; in the latter case, employer's financial contribution is treated by laws as equal to salary support. The regulation is changed with the new version of the law since 2015, whereas the one who "orders" the training pays for it and there are no special clauses for making degree studies more expensive for the employers. On the other hand, this is unlikely to shift the focus of those interested in degree studies towards VET schools, as these do not have fees to begin with; and that at the moment also applies for most, but not all, of the HE programs. Still, it is possibly a clause privileging certain groups of employees who are already at a more advantaged position.

In the beginning of 2000s the situation in CVET provision began to change, too, partly due to the financial support from European Union. **Formal VET institutions have been actively providing specialised courses at no or low costs**, partly due to their improved infrastructural resources and partly due to their improved orientation towards target groups (given also the decrease in student population since larger share of students was admitted to general education programmes). Since significant share of EU funds in Estonia were targeted to improving human resources, **formal VET became a preferred solution for ministries/public sector officials at the local level** (e.g. in providing CVET courses for unemployed and inactive adults).

The gender gap - in education and labour market

Due to the gender segregation (both horizontal and vertical) in the labour market and in education as well, this has also had an impact in the VET, where horizontal gender segregation exists between programmes, whereas more women gain academic education than men; and the fields they study at still differ. Women may, however, be more likely to compensate their lower labour market chances, and lower satisfaction at work, by engaging in VET programmes for personal reasons, thus most of the adult learners in VET in Estonia are women. On the other hand, groups where occupational standards are best described in labour market (teachers, kindergarten teachers, public administration officials) are also overwhelmingly women, they also tend to be the main group in CVET courses.

The challenge of integrating local 2nd and 3rd generation immigrant origin people

As to the large share of Estonian populations being non-native Estonian speakers (different by generations, but about one third of population), whose position in society changed during the social transformation, also their chances to engage in the studies at VET and HEI level in Russian language decreased significantly, as the provision was closed in HEI and number of programmes decreased at VET due to the hopes this would help further immersing in Estonian language.

It is important to discuss also the access to CVET options by language. We can witness the share of those 25-65 who participated in LLL over four weeks before the survey increased 2,7 times since

1997 to 2015 among native Estonians, and over 2,4 times among non-Estonians, indicating similar tempo; nevertheless, with the different starting point (5,5% of LLL participation rate for Estonians, 3,1% for non-Estonians), the result is now quite different, and larger by percentage points (14,7% for Estonians, 7,4% for non-Estonians).

A common EU labour market and mobile students plus mobile workers

VET system, especially in certain programmes, has accepted the challenge by developing international cooperation and offering placements abroad for their students. In some programmes, studying foreign languages has been increased. However, there is as yet rather small provision of English language programmes in VET; this challenge has been met more actively at higher education than at VET programmes.

Technological change

(TBC)

The macroeconomic environment (the economic cycle).

(TBC)

Europeanisation

It has been argued that Estonia, like many other new member states and postsocialist countries, has been more receptive to EU education policy goals and tools (Raudsepp, 2010), and tends to accept EU norms and policy goals less critically, without lengthy discussion (Toots and Kalev, 2015; Toots and Loogma, 2015) than older members, who already have a well-established institutional setup/structure for their VET governance. In the case of transition countries, which have undergone systemic regime change, at least two factors can contribute to this kind of conformist orientation.

- **First, VET reform largely coincided with a period of radical change for the European VET framework** (Grootings, 2009). In a way, Estonia *entered* into the Copenhagen process at a time when no established Estonian institutional setup for VET was in place (in contrast to the situation in old member states). This can be seen as one reason, at least partly, as to why “Estonia has been eagerly adopting the pan-European instruments for VET and Lifelong learning” (Raudsepp, 2010, p. 4).
- Secondly, the general liberalisation and marketisation tendencies in education make a good fit between the Lisbon values and the Estonian national goals in education (Toots, 2009).

Generally, Europeanization in VET started from the horizontal lesson drawing from the episodic best practices of EU countries within the framework of bilateral aid projects in the first period of chaos and liberal adjustment of the VET system to the changing context. The period is characterized by uncritical attempts to transfer foreign policy goals into the domestic reform policies. Discursive Europeanisation can be considered a further, albeit rather conformist, method of learning. EU VET policy has greatly influenced VET policy formulation in Estonia. The EU’s influence on the content and style of the domestic policy documents, or discursive Europeanization, manifests convergence in its “talk” (Radaelli, 2008, p. 24). This is obvious in Estonian education generally (Toots and Loogma, 2015), and particularly in domestic VET policy documents (NAPs). The uncritical approach has slowly declined and even the principles have transferred from the EU, and the policy tools and instruments have developed, considering national/local needs and challenges (Toots and Loogma, 2015). This tendency is already obvious in the third NAP. **However, the standardising policy tools and activities have been adopted almost without discussion, regardless of whether and how they may contribute to the quality of VET** (in terms of labour market relevance, the lifelong learning capacity building of vocational students etc.). The adoption of the comprehensive strategy of

lifelong learning (ELLS202) in 2013, manifests even deeper *thick* policy learning by domestic actors, and raises their capacity to formulate their own education policy²⁴⁰.

6. Conclusions

VET in the period under consideration can be described as the one with interruptions, ever-ongoing reforms and adjustments while taking up the challenges proposed by the changing social and economic context, but also in terms of developments in the education system more widely both at lower as well as higher levels of education.

In terms of developments in Estonian VET, we see most of all the trends of Europeanisation, closely to do with standardisation; and more influx of adults in formal VET, together with more flexible provision. However, the esteem of VET track for one's first level of qualification both at secondary and post-secondary education continues to be low. In fact, VET has been given much wider task in terms of social cohesion, by filling the function of catering to early school leavers and securing unemployed and other disadvantaged groups access to any or new skills and knowledge. This, together with increased share of (more privileged) adult students whose main purpose of studying is maybe not job-related, has meant heavy diversification of the student body, and has also had an impact in how classroom activities can be organised, thus making demands on teaching.

In the future, with changing jobs and qualification standards, and considering further dualisation of labour market, there is both the trend towards more and higher standards for some areas and also less formalisation of standards in other areas. In any case, there is **more need** for retraining, but also more **appetite** for new knowledge and skills to change one's field or position. Thus, there will be more CVET participation and more participation of adults in formal education. the role of formal education institutions in providing NFE will increase as the share of **older adults** among their learners (both in formal education programmes and NFE) will increase due to both extended work life but also habits and changing social norms.

In some areas (e.g. social work, ICT), there will be more **need for practical VET education** and skills (due to labour shortages but also functional flexibility), therefore it is possible that those with higher qualifications in these areas may need to add more practical knowledge to their portfolios. Since more work will be done outside of traditional labour relations the **role of one's employer** in providing learning opportunities will **increase**, as when hiring short-term labour, and **decrease**, over the individual lifecourse, as individuals are expected to be responsible for their skills, therefore, even **larger role for social and educational policies** to enable individuals to participate in further learning also outside of schools.

It can be also suggested that the relevance of **English language in CVET provision** (both in formal education programs and NFE) will increase in near future due to more labour mobility from and to Estonia as well as more working for foreign enterprises.

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Germany

Philipp Grollmann

I. Introduction

This case study outlines the most important qualitative and quantitative changes and challenges that the dual vocational education and training system in Germany had to cope with over the period of the last 20 years.

As opposed to more liberal labour market traditions, vocational education, occupations and qualifications respectively are strongly characterising the German labour market (Bosch 2016). This labour market system and educational tradition is embedded into a political system that provides an institutional infrastructure for vocational education and training. This is characterised by a corporatist governance structure. Interests of employers as well as employee associations are incorporated into the policy process and decision making on different levels.

Systemic changes and reforms in such a setting do usually take a long-term view. In recent years major challenges to the vocational education and training system have been and will continue to be demographic factors and “academic drift” on the side of learners and the withdrawal of companies from apprenticeship training on the employers’ side.

Section two describes the meaning of vocational education and training within this cultural and institutional framework. In section three the historic context of this understanding is outlined including the development of certain concepts within the vocational education and training discourse over time. In section four an overview is provided about the most important changes in terms of quantitative developments. Section 5 does address more strongly the economic dimension of vocational education and training and the potential relationship to global developments, such as global technological or labour market changes. In section six a summary and conclusion will be provided based on an analysis of continuity and change and likely future developments.

2. What is meant by VET and national VET system

Before describing in-depth, the formal side of VET, its systemic organisation, concepts and definitions (2.2) the following paragraphs describe some general traditional social images and norms on work and employment in German society (2.1).

2.1 Work and Occupation in Society

Vocational education and training in German society can only be understood when emphasis is laid upon the term “vocation” and its translations. In Germany, there exists a rather broad conception of “Beruf”, which spans the boundaries of different education subsystems and qualifications. According to common sense²⁴¹, a “Beruf” refers to a position in the labour market presupposing a specialised training and education pathway that supports the acquisition of the experience, skills and knowledge required to solve the tasks in this occupation. In addition, it would open the possibility to make a living on it, and to pursue a (potentially lifelong) career within this job.

“Beruf” can refer to jobs for which there are qualifications required from an existing designated vocational education system or jobs that are associated to academic qualifications, such as medical doctor, teacher, engineer, lawyer etc.

²⁴¹ Unfortunately, a short literature query has not yielded in any kind of representative surveys on this.

It is taken for granted by families, individuals and employers that the vocational qualification not only documents the educational pathway and academic achievements but also signals the ability to perform competently in the respective occupation. This goes hand in hand with the expectation that experience within an occupation is in many cases part of the curriculum.

Not only in sociological terminology (as in the early works of the sociology of professions and occupations), but also in everyday language “Beruf” would be contrasted with a mere “job”. “Job” in German language would designate an economic activity without such implications in terms of knowledge, skills, subjective identification and career perspectives. The Anglicism “jobben”, used in German colloquial language, refers to a temporary activity on the labour market, the only purpose of which is to earn money. Even though there might be changes over the last decades, this notion will still be prevailing within large parts of society, especially parents and families.

However, this traditional cultural understanding of “Beruf” is changing over time and might have lost significance in relation to endogenous changes in society and “imported” notions on education and employment patterns. Major drivers of this are supposedly globalised human resources development concepts (in internationalised firms), changing educational choices and aspirations (“academic drift”), a general trend towards more flexible employment relationships and migration.

Apart from the designated system of vocational education “Berufs(aus-)bildung” or “Ausbildung” in everyday language in many cases might also refer to higher education studies (such as described above related to academic professions) and to school based programmes that lead to a qualification in certain jobs. The former applies especially to a number of occupations in personal and health-related services, such e.g. nursing, pre-school teaching or physiotherapy.

2.2 Vocational education and training system

Depending on the respective federal state (Länder-)jurisdiction, there is variety of regulations on compulsory (vocational) schooling (Vossenkuhl 2010). Usually, in case the student is not enrolled into a programme that is built on designated university preparation curriculum and certification, there is a requirement to enrol into vocational or vocational preparatory programmes in the secondary school system. Compulsory vocational schooling is part of the federal Länder general schooling jurisdictions and refers to 12 years of mandatory schooling or mandatory schooling until reaching a certain age (varies between 19 and 22).

In case of the dual vocational education system there is a complementarity between federal and Länder legislation. Vocational education and training according to the Federal Vocational Education and Training Act (Berufsbildungsgesetz, BBiG; Bundesministerium für Bildung und Forschung 2005) entitles apprenticeship trainees to vocational programmes at vocational schools. Compulsory vocational schooling is mandatory until an age between 19 and 22 anyway (see above). The BBiG stipulates that employers have to urge apprenticeship trainees to enrol and participate in vocational school programmes and have to provide them the time necessary for this. Hence, there is also a compulsory vocational schooling for apprenticeship trainees beyond the stipulated age of Länder jurisdictions.²⁴²

The term “Berufsausbildung” (initial vocational education and training) emphasises initial VET and is legally clearly associated with the dual system of apprenticeship. ‘Continuing Vocational Training’ corresponds to the German term “Berufliche Weiterbildung”, that is partly also regulated to the BBiG, as “Berufliche Fortbildung”, translated as “further training” (see box).

²⁴² This is not depending on the age of apprentices.

The following box shows the most important sentences from the BBiG illustrating the legal understanding and concepts of vocational education and training in Germany.

Part I General Provisions

Section I Vocational Training Terms and Objectives

- (1) For the purposes of this Act, the term “vocational training” shall mean vocational training preparation, initial training, further training and retraining.
- (2) Vocational training preparation shall serve to impart basic skills required for the acquisition of vocational competence and thus facilitate placement in initial training in a recognized training occupation.
- (3) Initial training shall, through a systematic training programme, impart the 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 trainees to acquire the necessary occupational experience.
- (4) Further training shall enable individuals to maintain and upgrade or broaden their vocational competence and advance their careers.
- (5) Retraining shall qualify individuals for another form of occupational activity.

Vocational training according to this legal definition refers to 327 federally regulated occupations. The following table shows the 25 most popular apprenticeship training occupations according to new training contracts between employers and apprentices for the year 2016. These count for around 60% of all new training contracts. It can be seen that these cover a range of occupations from administrative clerical, trade and industrial and personal and health related services. The latter are typically those that are associated to the liberal professions, such as medical doctors and dentists, whilst the abovementioned health related (school-based) occupations refer to public health and educational services. The table also shows the gendered patterns in these occupations: in contrast to male dominated technology oriented occupations there are strongly female dominated occupations in health, social and educational services.

The Vocational Training Act also regulates different level of governance of the system spanning from the federal to the Länder and regional level. In legal terms Chambers of Commerce and industry or Chambers of crafts play an important role in the governance of the system since they are commissioned by law with the administration of firm based training within the VET system, its quality and examinations on the regional level. Chambers also host regional vocational education and training committees that are set up with representatives of employers and employee associations and representatives from vocational schools. One of their functions is to observe developments on the apprenticeship training market in their region. In addition to the regional committee, there is a Länder level committee that includes additional representatives from the Länder governments, who are also providing apprenticeship training in addition to those that are representing educational administration.

On the federal level there is a similar body that is the Main Board of the Federal Institute for vocational education and training (BIBB). This body is equally setup with representatives of employers and employee associations and representatives of the educational administration of the Länder. The main task of this body is to advise the federal government on its vocational education and training policy by commenting on the federal vocational education and training board on an annual basis. The Main board also comments on the training regulations of the federally regulated occupations. This multilevel infrastructure supports the gathering and passing on of information between different governance levels.

3. Historical context

The German VET system is based on some specific features that have long historical roots. The system is unique with regard to its governance on different levels and the incorporation different interest groups. Therefore, German VET was object of analyses for many political scientists (Culpepper 2003, Culpepper und Finegold 1999, Thelen 2004).

Apart and interrelated with this type of governance it is also remarkable that companies are substantially contributing (also economically) to the operation of the vocational education and training system. This goes hand in hand with a specific way of integrating young people from education to the world of work, that finds its roots in medieval structures of organising work the craft sector.

The system of governance can be traced back to the age modernisation and industrialisation. As opposed to other European countries different interest groups, such as artisans in craft guilds where integrated into the formation of political will which was in stark contrast to the developments across the European borders. France and UK were much more strongly liberalising their educational systems including an increased significance of public schooling.

In Germany the corporatist integration of employers has proved to be functional to the skills problem in industry during industrialisation (Greinert 1995, Greinert und European Centre for the Development of Vocational Training 2005, Greinert und Hanf 2004). This has led to a predominant position of enterprises with in the overall vocational education and training system. The idea of self and governance or subsidiarity of employers in skills responsibility and a rather broad conception of occupational tasks survived the processes of industrialisation because they were functional to the needs of industry as well as of crafts.

Schooling was regarded as an important mechanism for the state to keep control with regard to the young generation. In a way this also constituted the ongoing competition on learning time between companies on the one hand and schools on the other.

However, in terms of policy it took over 50 years of development in the 20th century until a consensus was reached on the introduction of the vocational education and training act (1969). Hence, long before the formalised system existed there was some common understanding about the essential elements of Berufsbildung. The term “dual system of vocational education” was initially coined by an expert group of the Federal government that was commissioned with advising educational reforms on different aspects and sectors of the German educational system (Deutscher Ausschuß für das Erziehungs- und Bildungswesen 1965) in the context of the educational expansion and reforms that took place across many industrial nations during this phase.

After this phase of consolidation of many long existing practices through the vocational training act, the next 20 years where are characterised through the ongoing reform of occupations and adaptation to the needs of the modernising economy and society. A crucial step in the further development of the dual system is seen in the reforms on the metal- and electrical technology occupations that started in the 80s (Herkner 2013). This reorganisation took until the end of the 80s and included a number of features that still characterise the established concept of well-regulated occupations. A major breakthrough was setting the competence to act independently (Berufliche Handlungsfähigkeit) for skilled workers as the overarching educational goal of apprenticeship training within the dual system.

According to the former president of the Federal Institute for Vocational Education and training (BIBB), Hermann Schmidt (cf. Cramer u.a. 2013), this development can be seen as a basic foundation

for the outcome orientation that is now required in the process of European co-operation and the development of national qualification frameworks.

According to Herkner (2013) the third significant phase – in terms of reforming curricular standards for vocational education and training started in the 1990s. The reorganisation of occupations also had significant effects on the necessity to invest into vocational schooling and curricular reforms, respectively. “Berufliche Handlungsfähigkeit” as an educational goal and its further specification was referred to in agreements between the Länder ministries in 1991:

„Sie [die Berufsschule] hat die Aufgabe, den Schülerinnen und Schülern den Erwerb berufsbezogener und berufsübergreifender Kompetenzen unter besonderer Berücksichtigung der Anforderungen der Berufsausbildung zu ermöglichen. Sie befähigt zur Ausübung eines Berufes und zur Mitgestaltung der Arbeitswelt und Gesellschaft in sozialer, ökonomischer und ökologischer Verantwortung.“ (Sekretariat der Ständigen Konferenz der Kultusministerien der Länder in der Bundesrepublik Deutschland 1991)

The ongoing reform of occupational profiles was accompanied by the implementation of the so-called “Lernfeld” concept in vocational schools in 1997 through a decision of the Länder ministries of education (Sekretariat der Ständigen Konferenz der Kultusministerien der Länder in der Bundesrepublik Deutschland 1996). “As a result, vocational curricula with their elements and contents had to relate to work and business processes and be described on the basis of competences. Regarding the German tradition of curricula, a paradigm shift can be observed, because earlier curricula were organised according to disciplines”. (Bauer und Przygodda 2003).

At the same time the dual system of VET experienced a crisis that led to an intensive discussion about the potential of the system to fulfil the requirements of a modern economy and society. Basic concepts of dual vocational education were fundamentally questioned. Major reasons for this discussion were quantitative problems on the apprenticeship labour market, new normative and educational orientations of individuals and families in association to a constant demand for and pressure to lifelong learning processes and the increased Europeanisation of Vocational education and training (Geissler 1993, Geissler 1994). This discussion persists until today and has had different phases itself. In accordance with the increasing European co-operation in VET an topic that attracted strong interest by employers as well as educational stakeholders was the demand for a more “modularised” system of apprenticeship training that could better accommodate the needs and varying preconditions of individuals (Euler 1998). Another strand of this discussion was rather dealing with the increased quantitative significance of bridging measures, that were intended to support school leavers in developing prevocational competences and finding employment on the apprenticeship labour market. Especially during the early years of the 21st century this so-called transition system (“Übergangssystem”) was very strong and at the same time increasingly criticized for its inefficiency to provide learners with adequate competences and perspectives on the labour market (Autorengruppe Bildungsberichterstattung 2008)²⁴³. On the other hand it was stressed that a better integration into the mainstream system would be required in order to support young people in getting recognition for their learning efforts and achievements from the transition system. Instead of “queueing” school leavers in a waiting loop before they enter Vocational Education within the mainstream system, the system should be flexibilised in order to achieve recognition (Euler und Severing 2006).

Other experts have stressed that – taking existing datasets on individual educational pathways and decisions into account – the term “Übergangssystem” would be misleading because it included a wide

²⁴³ See section 4 on the quantitative developments

range of measures and programmes that needed to be further differentiated in order to make useful contributions to an evidence base for policy decisions (Braun und Geier 2013).

This discussion around the “Übergangssystem” was also accompanied by an increased call on greater flexibility as regards to training regulations, providing employers greater leeway in adapting regulations to their specific needs and to individual capacities and interests. This discussion around the “modularisation” of vocational education and training (Pilz und Li 2016) was amplified through the increased Europeanisation of vocational education and training policies (Grollmann u.a. 2005, Grollmann u.a. 2006) that resulted in several initiatives and actions in order to implement European instruments, such as EQF and ECVET. There was also an intensive discussion about the compatibility of these instruments with the “Berufsprinzip” (Drexel 2005) .

An additional challenge to the governance of the system is that measures on this level suffer from a highly differentiated share of responsibilities between different levels and departments (labour, education, family and social affairs, state departments and regional actors) and sources of funding. The need for a close coordination of different regional actors was emphasised in many proposals (Kruse 2010).

In 2005 a reform of the vocational training act was passed, that included a number of alterations. All in all a major direction was strengthening school based VET and the role of teachers within regional committees. A regulation was included that allowed graduates of vocational full time schooling to be admitted to the final examinations at the chambers in order to compensate for a lack of firm-based apprenticeships. Access to chamber examinations was also eased for workers with substantive occupational experience. Instead of twice of the apprenticeship training time only 1.5 times of occupational experience need to be verified.

4. Changes in Enrolments

In the following section changes within the vocational education and training system and with regard to its role in the overall education system are described based on available statistics. Most of the described changes can be traced back to the time before 2005, however, reporting has changed in 2005 and therefore we will restrict the analyses to this point.

Due to the differentiation of programmes across the Federal Länder the integrated description of flows of students from one programme to another in a historical perspective is a challenging task. A newly developed reporting system on the federal level was established only recently (Konsortium Bildungsberichterstattung u.a. 2006). The Federal Institute for vocational education and training has developed the so called integrated education and training reporting system (Dionisius u.a. 2013). This system distinguishes between four sectors:

- vocational education and training according to the vocational training act
- preparation for vocational education and training
- school-based vocational education and training and
- take up of a study program at the higher education level.

The sectors represent the options that are available for a young school graduate, when leaving school. Again, according to the different regulations in place across the Federal countries, this can be persons who leave the school system before or after secondary level I and enter initial training and education or it can be students leaving the education system after secondary level II for further studies and education after

obtaining the qualification for high education studies. **Table 2: Data for section 3 on enrolments**

<p>The balance between enrolments in general and vocational education at (a) lower secondary, (b) upper secondary; and (c) tertiary levels;</p>	<p>a). „Übergangssystem“ b). Datenreport/Berufsbildungsbericht, ggf. Statistisches Bundesamt c). I Zahlen zu Universitäten/Fachhochschulen</p>
<p>How the structure of VET has changed with respect to enrolment in types of programmes (e.g. work-based versus school-based provision);</p>	<p>Berufsbildungsbericht /Datenreport (Indikatoren ab A 5...)</p>
<p>The broad subject areas encompassed within VET (increasing or decreasing in scope);</p>	<p>Datenreport/Berufsbildungsbericht Anzahl der Neuabschlüsse nach Ausbildungsberufen, ggf. nach Wirtschaftsbereichen</p>
<p>The level at which VET qualifications are provided.</p>	<p>Nicht/kaum relevant/ II. Zahlen zu Fortbildungsprüfungen</p>
<p>Information on changes in the socio-demographic structure of the VET student population (age, gender, social status) would also be very much appreciated.</p>	<p>Datenreport/Berufsbildungsbericht Entwicklung des Durchschnittsalters</p>

Figure 1 shows the number of beginners distributed across the four options, independent of their age. Hence, information includes students leaving the first level of secondary schooling and students that are leaving the second level of secondary education. Eventually, the figure provides an overview on how the different groups of students that start an education or training after compulsory education are distributed across the different sectors (Dionisius und Illiger 2017).

Changes within vocational education and training

In 2016 34.7% of students that started a full-qualifying vocational education and training programme. This group includes 68.1% that were starting a program according to the vocational training act. 31.9% were starting a full-time school-based vocational education and training programme. This includes 24.7% who commence a programme in health-related or education- and social-service related occupations.

Changes in prevocational education (“transition sector”)

Only 14.7% were entering the transition sector as opposed to around 22% in 2005. Accordingly, the above mentioned discussion around the integration of the transition system has calmed down. The programmes in the so-called transition system would normally be referenced as pre-vocational education according to international education statistics. It is important to acknowledge however, that becoming student in this sector is not necessarily the result of curricular progression and educational decisions after the preceding programme, but might be the result of not entering employment within the vocational education system. Again it is worthwhile to stress that the age of students in this sector can cover a wide range as well as motivations and orientations.

Changes in higher education preparation and enrolment

The figures also accompany the debate around an increased “academisation” of educational decisions, which is depicted in the 25% that were preparing for university studies and another quarter that started a programme at one of the higher education institutions. This contrasts with 17% in 2005.

In terms of absolute numbers the number of those that are entering the higher education system has outstripped the number of those that are entering vocational education according to the vocational education and training act for the first time in 2014. Partly, this can be explained through the fact that across all federal states the number of school years in general secondary education was reduced to 12 years, so that in many states there were two age cohorts leaving higher secondary education at the same time. However, it is characteristic for a general trend of a decreasing significance of vocational education according to the vocational training act as opposed to other forms of continuing the educational pathway, e.g. in the higher education sector. This tendency might also be result of an increasing share of educational cohorts that leave the education system with university entrance qualification. While in 1996 there were 31.5 % of the respective age population who obtained a higher education entrance qualification their share was 46.6% in 2015 (Statistisches Bundesamt 2016).

Over the last years the number of drop-outs from higher education study programmes has increased, therefore there is an ongoing discussion how to attract higher education drop-outs to vocational education (Heublein 2014). Another trend that has grown over the last years is the development of dual study programmes in the higher education sector. Some of these integrate a classical dual system apprenticeship into the higher education programme. Such models are referred to as integrated dual programme models. In addition, there exists a number of other structures, that are not the well-defined (Krone 2015). Numbers of companies that participate in such programmes as well as students have more than doubled since 2004: in 2004 there were around 45 000 Students enrolled in to dual programmes and in 2016 there were around 100 000.

5. Interplay between external and internal factors

In this section we will address how certain demographic changes and technological developments might influence the further development of the vocational education and training system. This also includes some developments with regard to general labour market policies in Germany.

The labour market and the apprenticeship training market

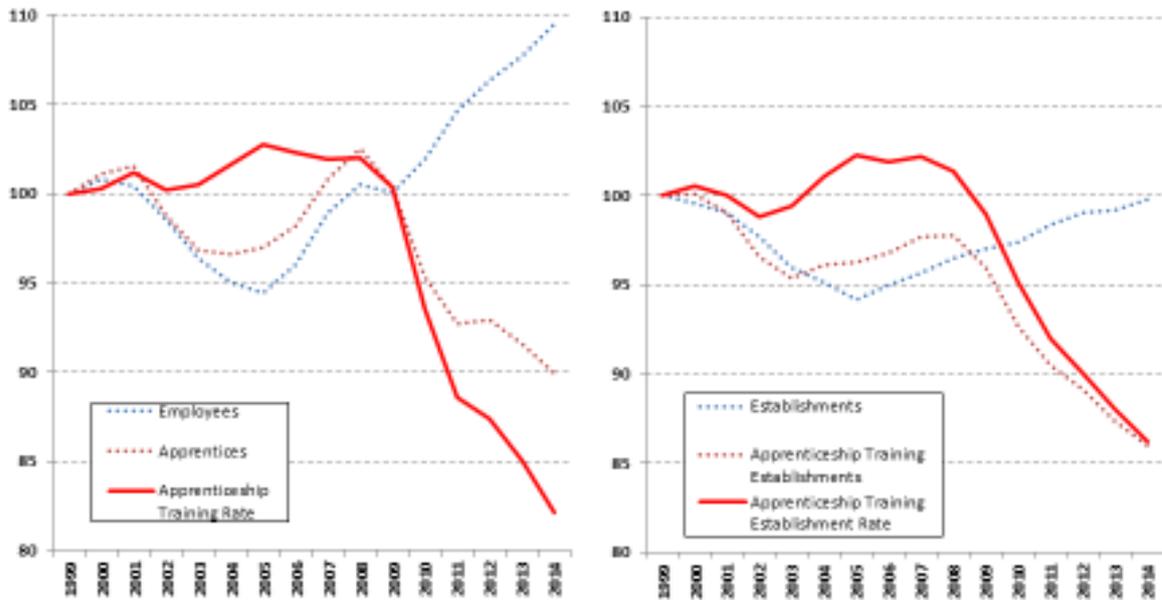
Over the last years - not least due to demographic reasons - the situation on the apprenticeship training market has eased. This relates especially to the large number of learners who exited from secondary education to the so-called transition system (Dionisius u.a. 2013). However, increasingly learners opt out of the traditional vocational education pathway in favour to the constantly expanding higher education opportunities. This “academic drift” that had started much earlier in many other industrial states is certainly aggravated through some drivers from the international level, such as the introduction of Bologna and the respective two level qualification system, that has not existed before and an increased awareness of learners about the possibility of different educational options. All in all – especially given the supportive macroeconomic environment - the apprenticeship market is characterised through a lack of applicants, even though there is a huge differentiation according to regional labour markets (Bundesinstitut für Berufsbildung 2017). Immigration and integration of refugees is increasingly mentioned as one policy option that might support balancing the quantitative lack of skills.

However, potentially more important, the supply of apprenticeship places has decreased constantly over the last years (see Figure 2). Companies and firms are not engaged anymore in apprenticeship provision as they were 10 years ago. This puts pressure on the vocational education and training system according to the vocational education and training act since the supply of apprenticeship positions is prerequisite to the functioning of the system. However, it is important to state here, that it is only about 20% of German companies who are involved into apprenticeship training at all (Bundesinstitut für Berufsbildung 2017: 10). Based on a panel analyses of firms Mohr u.a. (2015) identified three groups, that differ in terms of their motivation.

- One group is principally committed to the apprenticeship model but is especially mentioning reasons (for an overview of reasons see Figure 2: Training-Establishment rate and apprenticeship training rate



Apprenticeship Training and Training Establishment Rate



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- Figure 3) that lies with in the pool of applicants, the most important of which is that there is a lack of applications or that vocational education is not sufficiently attractive to potential applicants. In addition dissatisfaction with the applicants who were mediated through the employment agency or because of the fact that applicants cancelled their contract.
- The second type of firm especially stresses that there is no need for internally skilled staff. The preferred recruitment option is to take on skilled workers from the external labour market. Typically, this is associated to overarching group company decisions or measures of restructuring.
- The last group was labelled as the cost-benefits optimiser. This type mentions all the reasons with specific emphasis on the costs and benefits of apprenticeship training.

Are those groups and the firms decisions now reflecting mainly internal pressures and challenges are they associated to larger structural developments on the German labour market that might be influenced by overarching global trends? First of all, Figure 2: Training-Establishment rate and apprenticeship training rate

Apprenticeship Training and Training Establishment Rate

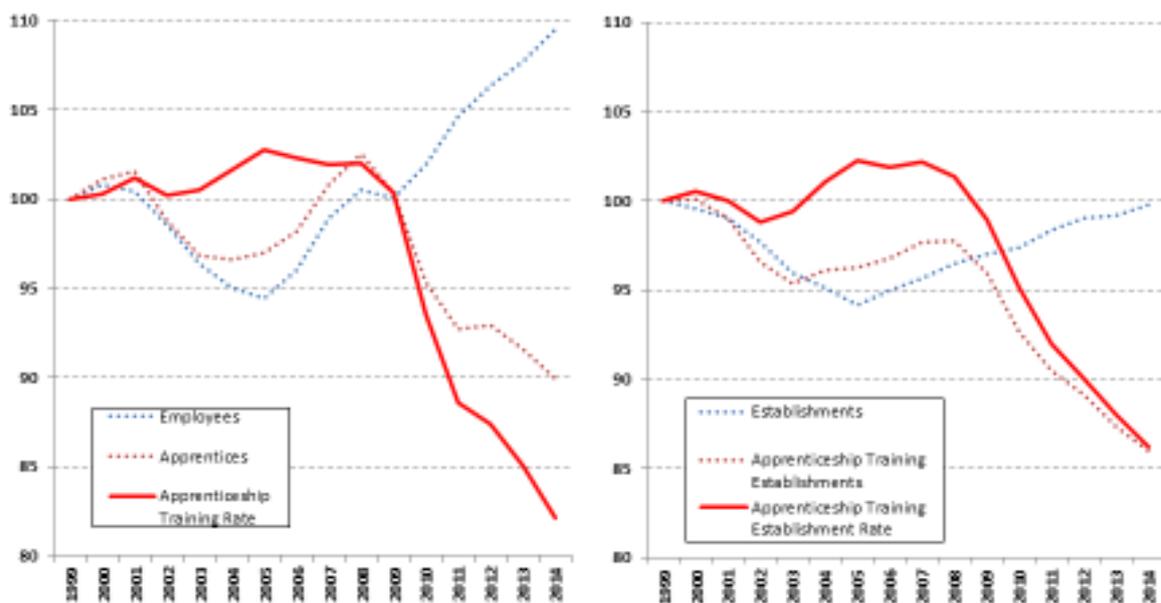


Figure 3 shows that new options that have been introduced mediated through processes of internationalisation or global pressure have merely influenced firms' behaviour: firms are not significantly employing low or no-skilled workers as a substitute to apprentices and as a result of labour market reforms (Hartz reforms) that might have rendered this more attractive. Secondly, firms do not tend to substitute apprentices with the newly emerging group of Bachelor graduates, that were not existent on the labour market before the introduction of the Bologna reforms in higher education. Interestingly, the group that has an affirmative apprenticeship motivation – in terms of enterprise characteristics- includes those companies that are significantly contributing to the German export industry.

A recent analysis has examined in how far specific features of the German labour market (such as centralised collective as opposed to firm-level wage bargaining) can explain the motivation to provide apprenticeships as proposed by Acemoglu und Pischke (1999). Neubäumer (2016) describes institutional changes on the German labour market that led to less wage compression and lower returns of apprenticeship and has collected evidence that these have not resulted in a reduced motivation to provide apprenticeships. Instead, firms might change training procedures towards more training at the work place and thus by decreasing their net training costs. It is still an open question in how far this might affect the training quality positively or negatively. However, the reintegration of firm-based training into productive work processes is seen as a potential strength of modernised dual vocational education and training (Grollmann und Rauner 2007). In an additional econometric study on 85 occupational profiles Jansen (2016) has shown that the increased firm based leeway through the introduction of different options within training regulations might lead to an enhanced take up of apprentices through firms.

Digitalisation and technological developments

Another international driver that is being under discussion over the last years is the effect that increased digitalisation might have on skill needs of companies and consequently on training behaviour of firms.

During the 80s and 90s the constant reform of the vocational education and training system and occupational profiles was characterised through the integration technological developments into existing occupational profiles. In the IT-Sector profiles were developed that became very attractive among school leavers (see e.g. the Fachinformatiker/-in in Table I).

Projections from the eighties and nineties that indicated a substitution of jobs through digital technologies did not prove. Recent studies – based on the analysis of firm and employee data as well as on projections - on the effect of the so-called fourth industrial revolution do not indicate a clear trend into the one or other direction, increased or decrease significance of the vocational education and training system (Helmrich u.a. 2016, Trotsch 2016).

Migration

Experts see immigration widely as an economic necessity to outweigh demographic effects and resulting shortages of skilled labour in the future. However, Germany has not yet developed a law on immigration. Given the expected shortages economic migration is still rather low and in many cases restricted to high-level qualifications. However, figures in this group of immigrants do not match the projected demands (Geis und Orth 2016).

With regard to the wave of refugees that have entered the country since 2015, there are increasingly measures on how to integrate refugees through becoming part of the vocational education and training system or how to recognise the qualifications that they bring from their home countries. Entry to occupational positions and recognition of individual achievements is intended to be eased by

the establishment of a law on the recognition of foreign qualifications (Erbe u.a. 2015). Data on qualifications indicates a strong demand for measures of integrating and training refugees over the coming years (Maier u.a. 2016).

6. Summary and conclusions

This paper has reported on the most important qualitative and quantitative changes over the last 20 years in the German vocational education and training system. Despite those changes, we can see that there are a number of structural characteristics of German vocational education and training that have not changed significantly over the last 20 years. Nevertheless structures were constantly challenged by a number of developments by the societal and economic environment.

German vocational education and training remains governed by a corporatist approach to vocational education and training policies, in which there is a share of responsibilities between employers and employee's associations.

In qualitative terms the notions that are at the background for training regulations today have changed in two waves:

- In the 90s, based on large reforms to the metal and electrotechnical occupational profiles a consolidation of the inherent potential of the strong tradition of vocational education and training was put forward. This was in alignment with modern ideas on human resource development and increased responsibility at the individual worker level. This had effects on the modernisation of school curricula and pedagogical ideas accordingly. However, on the practical level this curricula progress will potentially not have reached each and every firm and school that is involved in apprenticeship training and there are still diverse conceptions in place.
- This rather coherent set of pedagogical and organisational developments was challenged by the problem of thousands of young people who were queueing up for an apprenticeship position within the vocational education and training system in the early years of the 21st century. An increased demand for individualised and “flexible” training offers was articulated and proposed.

Today, in terms of educational sub-systems there is a competition between vocational education and higher education that has not seen an equivalent in terms of numbers in earlier periods. However, when looking at firms' recruitment behaviour there is no clear indication for a full withdrawal from vocational education as established in the dual system. Digitalisation does not necessarily seem to be a major driver of further academisation as opposed to a strong vocational education system. Vocational education and training as it is organised in Germany through the federal Vocational Training Act seems to be so strongly intertwined with the overarching labour market and economic system, that it is affected by global drivers of change as much as the German economy itself. The liberalisation of the labour market of the last 20 years does apparently not (yet) produce significant changes in firms' recruitment and training policies. Therefore, there remain two major issues that are likely to continue having a longer term effect on the vocational education and training system: Increased co-ordinated immigration as a reaction to skill shortages and the orientations of individuals and families towards higher education, that might even mutually reinforce each other.

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Annex for Germany

Table I: The most popular apprenticeship occupations in the dual system

Rangliste 2016 der Ausbildungsberufe ⁺ nach Neuabschlüssen in Deutschland									
Beruf	Deutschland NAA	Anteil männliche Auszubildende	Anteil weibliche Auszubildende	Deutschland	Rangänderung* zum Vorjahr Rang	Alte Länder	Rangänderung* zum Vorjahr	Neue Länder und Berlin	Rangänderung* zum Vorjahr
Kaufmann/-frau für Büromanagement ³⁾	28.656	26,7	73,3	1	0	1	0	1	0
Kaufmann/-frau im Einzelhandel	25.191	48,0	52,0	2	0	2	0	3	0
Verkäufer/-in	23.850	44,8	55,2	3	0	3	0	2	0
Kraftfahrzeugmechaniker/-in	21.465	95,7	4,3	4	0	4	0	4	0
Industriekaufmann/-frau	17.934	41,0	59,0	5	0	5	0	15	-3
Medizinischer Fachangestellte/-r	15.822	2,3	97,7	6	0	6	1	13	0
Kaufmann/-frau im Groß- und Außenhandel	14.463	60,4	39,6	7	0	7	-1	17	0
Elektroniker/-in	13.290	97,7	2,3	8	1	8	1	7	1
Zahnmedizinischer Fachangestellte/-r	12.780	1,7	98,3	9	1	10	0	11	3
Industriemechaniker/-in	12.714	93,4	6,6	10	-2	9	-1	13	-2
Fachinformatiker/-in	12.093	92,1	7,9	11	3	11	2	18	5
Anlagenmechaniker/-in für Sanitär-, Heizungs- und Klimatechnik	11.679	98,5	1,5	12	-1	12	0	12	3

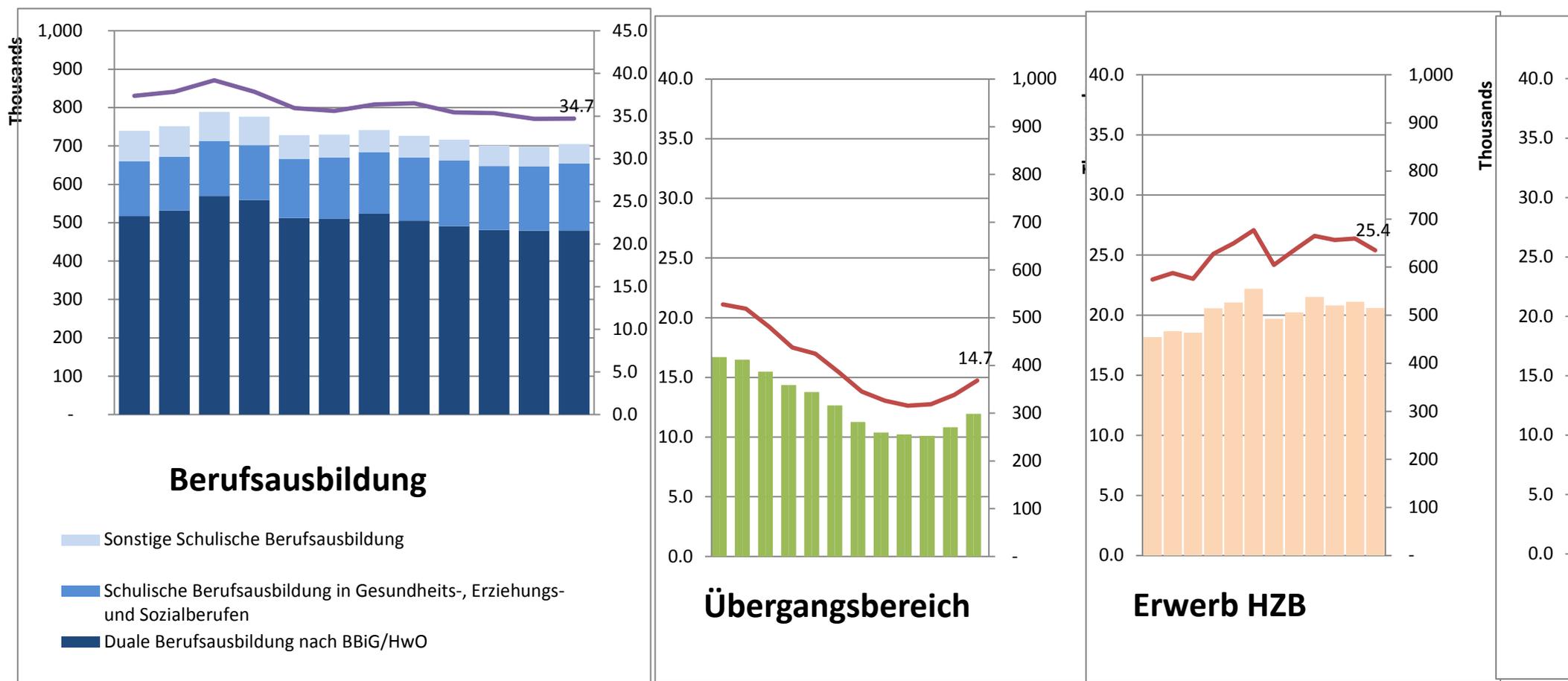
Friseur/-in	10.950	16,7	83,3	13	0	13	1	8	-1
Fachkraft für Lagerlogistik	10.317	88,4	11,6	14	1	14	1	9	1
Hotelfachmann/-frau	9.468	33,7	66,3	15	1	16	0	6	0
Bankkaufmann/-frau	9.435	47,5	52,5	16	-4	15	-4	25	-5
Koch/ Köchin	9.144	76,5	23,5	17	0	17	0	5	0
Mechatroniker/-in	7.959	92,2	7,8	18	1	19	3	10	-1
Tischler/-in	7.731	88,0	12,0	19	-1	18	0	20	1
Fachverkäufer/-in im Lebensmittelhandwerk	6.918	15,9	84,1	20	0	20	-1	26	2
Steuerfachangestellter/ Steuerfachangestellte	6.879	31,7	68,3	21	0	21	-1	27	-1
Maler/-in und Lackierer/-in	6.540	83,9	16,1	22	0	22	-1	32	-2
Elektroniker/-in für Betriebstechnik	6.456	94,0	6,0	23	1	23	0	23	2
Verwaltungsfachangestellter/ Verwaltungsfachangestellte	6.285	28,7	71,3	24	2	25	3	16	0
Zerspanungsmechaniker/-in	5.934	93,2	6,8	25	-2	27	-3	19	0

Table 2: Data for section 3 on enrolments

<p>The balance between enrolments in general and vocational education at (a) lower secondary, (b) upper secondary; and (c) tertiary levels;</p>	<p>a). „Übergangssystem“ b). Datenreport/Berufsbildungsbericht, ggf. Statistisches Bundesamt c). I Zahlen zu Universitäten/Fachhochschulen</p>
<p>How the structure of VET has changed with respect to enrolment in types of programmes (e.g. work-based versus school-based provision);</p>	<p>Berufsbildungsbericht /Datenreport (Indikatoren ab A 5...)</p>
<p>The broad subject areas encompassed within VET (increasing or decreasing in scope);</p>	<p>Datenreport/Berufsbildungsbericht Anzahl der Neuabschlüsse nach Ausbildungsberufen, ggf. nach Wirtschaftsbereichen</p>
<p>The level at which VET qualifications are provided.</p>	<p>Nicht/kaum relevant/ II. Zahlen zu Fortbildungsprüfungen</p>
<p>Information on changes in the socio-demographic structure of the VET student population (age, gender, social status) would also be very much appreciated.</p>	<p>Datenreport/Berufsbildungsbericht Entwicklung des Durchschnittsalters</p>

Figure 1: "Integrated education and training reporting system"

A4.1 Schaubild 2: Entwicklung der Sektoren des Ausbildungsgeschehens 2005 bis 2016 - absolut und relativ (100% = Alle Anfänger/-innen im Ausbildungsgeschehen)



Quelle: "Integrierte Ausbildungsberichterstattung" und "Schnellmeldung Integrierte Ausbildungsberichterstattung" auf Basis der Daten der statistischen Ämter des Bundes und der Länder und der Bundesagentur für Arbeit, Datenstand: 18.11.2016 und 14.03.2017

Table 3: Learner streams from 1992 -2006

Übersicht 2.1/I: Zahl der Einmünder/innen, Ausbildungsanfänger/innen von 1992 bis 2006 in Bildungsgängen, die zu einem Berufsabschluss führen bzw. eine berufliche G

		Jahr									
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Zeile 1	Absolventen/Absolventinnen aus allgemeinbildenden Schulen	759.737	779.737	804.020	840.527	871.552	894.906	904.637	917.669	918.748	910.784
Zeile 2	Neue betriebliche Ausbildungsverträge zum 30. September	k.A.	k.A.	k.A.	k.A.	k.A.	k.A.	k.A.	550.231	564.379	557.357
Zeile 3	Neue außerbetriebliche Verträge zum 30. September	k.A.	k.A.	k.A.	k.A.	k.A.	k.A.	k.A.	80.784	57.314	56.879
Zeile 4	Neue Ausbildungsverträge zum 30. September insgesamt	595.215	570.120	568.082	572.774	574.327	587.517	612.529	631.015	621.693	614.236
Zeile 5	Berufsfachschüler/innen in BBiG/HwO-Berufen im 1. Schuljahr	3.697	4.100	4.296	4.644	6.787	14.550	15.619	14.553	13.281	12.830
Zeile 6	Berufsfachschüler/innen vollqualifizierend außerhalb BBiG/HwO im 1. Schuljahr	49.503	54.982	53.732	58.067	62.263	73.797	76.816	78.691	87.081	91.709
Zeile 7	Schüler/innen in Berufen des Gesundheitswesens im 1. Schuljahr	47.578	49.426	51.129	53.321	53.803	44.703	44.219	44.188	42.735	43.500
Zeile 8	Vollqualifizierende schulische Berufsausbildung insgesamt	100.778	108.508	109.157	116.032	122.853	133.050	136.654	137.432	143.097	148.039
Zeile 9	Berufsfachschüler/innen 1. Ausbildungsjahr in Bildungsgängen, die eine berufl. Grundbildung vermitteln	110.252	119.574	130.156	131.925	140.418	141.320	143.085	141.692	149.624	151.653
Zeile 10	Schüler/innen im Berufsgrundbildungsjahr (Vollzeit)	31.325	31.589	34.869	37.924	39.966	40.229	40.856	39.677	41.236	40.495
Zeile 11	Schüler/innen im Berufsvorbereitungsjahr	37.156	46.464	51.734	55.512	65.198	66.364	66.806	68.606	72.787	75.810

Zeile 12	Schüler/innen, die eine berufliche Grundbildung erwerben, insgesamt	178.733	197.627	216.759	225.361	245.582	247.913	250.747	249.975	263.647	267.958	2
Zeile 13	Eintritte in berufsvorbereitenden Maßnahmen (im Kalenderjahr)	70.400	72.690	85.521	96.354	107.086	110.523	128.145	137.618	145.130	154.192	1
Zeile 14	Eintritte in Einstiegsqualifizierung (im Kalenderjahr)	.	.	.	.	.	.	.	.	.	.	.
Zeile 15	Eintritte in BA-finanzierte Maßnahmen der Berufsvorbereitung insgesamt (inkl. EQJ)	70.400	72.690	85.521	96.354	107.086	110.523	128.145	137.618	145.130	154.192	1
Zeile 16	Fachoberschüler/innen in der 11. Klasse	23.194	25.225	29.204	32.129	36.888	39.769	41.630	43.971	45.687	47.550	1
Zeile 17	Studienanfänger/innen	290.800	279.631	267.946	262.407	267.469	267.445	272.473	291.447	314.956	344.830	3
Zeile 18	Arbeitslose Jugendliche unter 20 Jahren (Jahresdurchschnitt)	88.215	90.015	92.415	95.222	107.297	113.539	108.488	101.246	101.342	100.699	1

Absolventen/Absolventinnen allgemeinbildender Schulen ohne Teilnehmer/innen am zweiten Bildungsweg (Abendhaupt-, Abendrealschule, Abendgymnasium, Kolleg) und ohne Teilnehmer/innen an der Schulfremdenprüfung

Die Zahl der niedersächsischen Absolventen/Absolventinnen mit Realschul- oder vergleichbarem Abschluss für 2004 wurde geschätzt.

Kursiv gedruckte Zahlen verweisen auf Schätzungen.

Die Schätzung der betrieblichen und außerbetrieblichen Verträge erfolgte ab 2006 auf einer neuen Grundlage. Diese führt zu rechnerisch deutlich höheren Anteilen außerbetrieblicher Verträge. Deshalb ist der für 2006 ermittelte Anteil an außerbetrieblichen Verträgen höher als in den Vorjahren.

Quellen: Statistisches Bundesamt, Bundesagentur für Arbeit, Bundesinstitut für Berufsbildung.

Figure 2: Training-Establishment rate and apprenticeship training rate



Apprenticeship Training and Training Establishment Rate

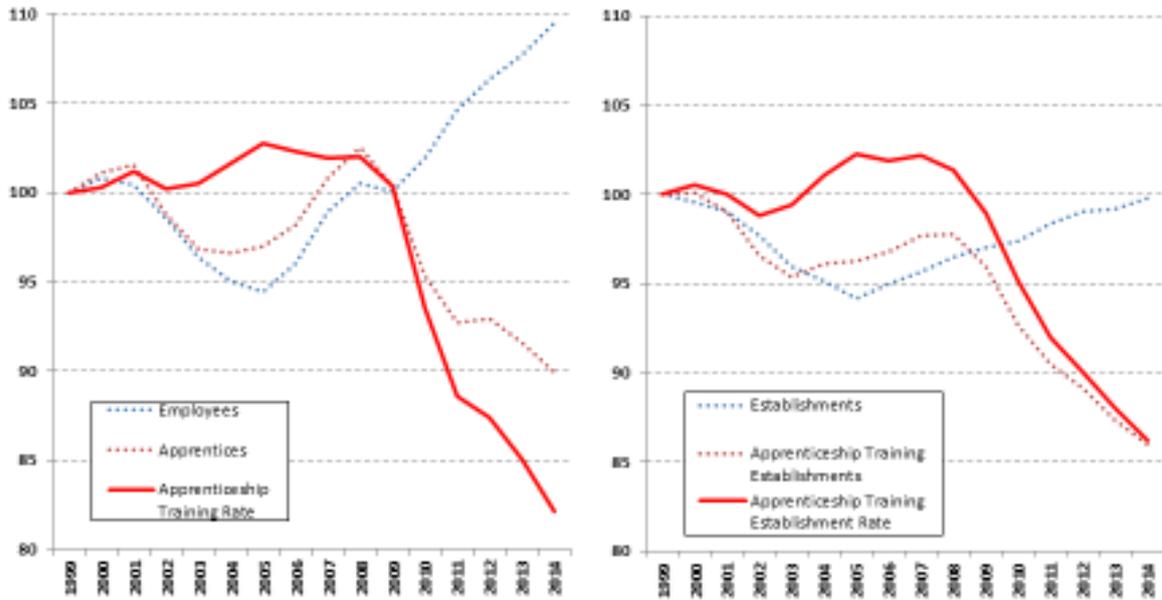


Figure 3: Reasons for companies to withdraw from apprenticeship provision

Abbildung 3: Betriebe mit rückläufigen Neuverträgen nach Verteilung von ausschlaggebenden Gründen für Rückgänge (In %, Mehrfachnennung)

