

The changing nature and role of vocational education and training in Europe

WORK ASSIGNMENT 2

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

AO/DSI/JP/Changing_Role_of_Vet/009/15

Case study focusing on The Netherlands

prepared for CEDEFOP – European Centre for the Development of Vocational Training

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This text is presented in its original form.

It has neither been revised nor edited by Cedefop.

The changing nature and role of vocational education and training – overall aims

The purpose of the Changing nature and role of VET-project is to improve our understanding of how VET is changing in the countries belonging to the European Union (as well as Iceland and Norway). Over a three-year period (2016-18) the project will analyse how vocationally oriented education and training has changed in the past two decades (1995-2015) and based on these results investigate the main challenges and opportunities facing the sector today and in the future. Work is divided into six separate but interlinked themes:

- (a) the changing definition and conceptualisation of VET;
- (b) the external drivers influencing VET developments;
- (c) the role of traditional VET at upper secondary level;
- (d) VET from a lifelong learning perspective;
- (e) the role of VET at higher education levels;
- (f) scenarios outlining alternative development paths for European VET in the 21st century.

The study takes as its starting point that vocationally oriented education and training is something more than the traditional VET delivered at upper secondary level (in the form of school-based education or training, apprenticeships, or combinations of these). Due to the requirements of lifelong learning, we are able to observe diversification of VET with new institutions and stakeholders involved. We also see an expansion of VET to higher education areas, partly through reform of existing institutions, partly through the emergence of new institutions. This has been caused by factors internal to the education and training system as well as by external pressures linked to demographic, technological and economic changes.

This particular case study, together with 9 other case studies, provides input to theme (b) of the project ('The external drivers influencing VET developments').

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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#Hoofdstukl>

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.

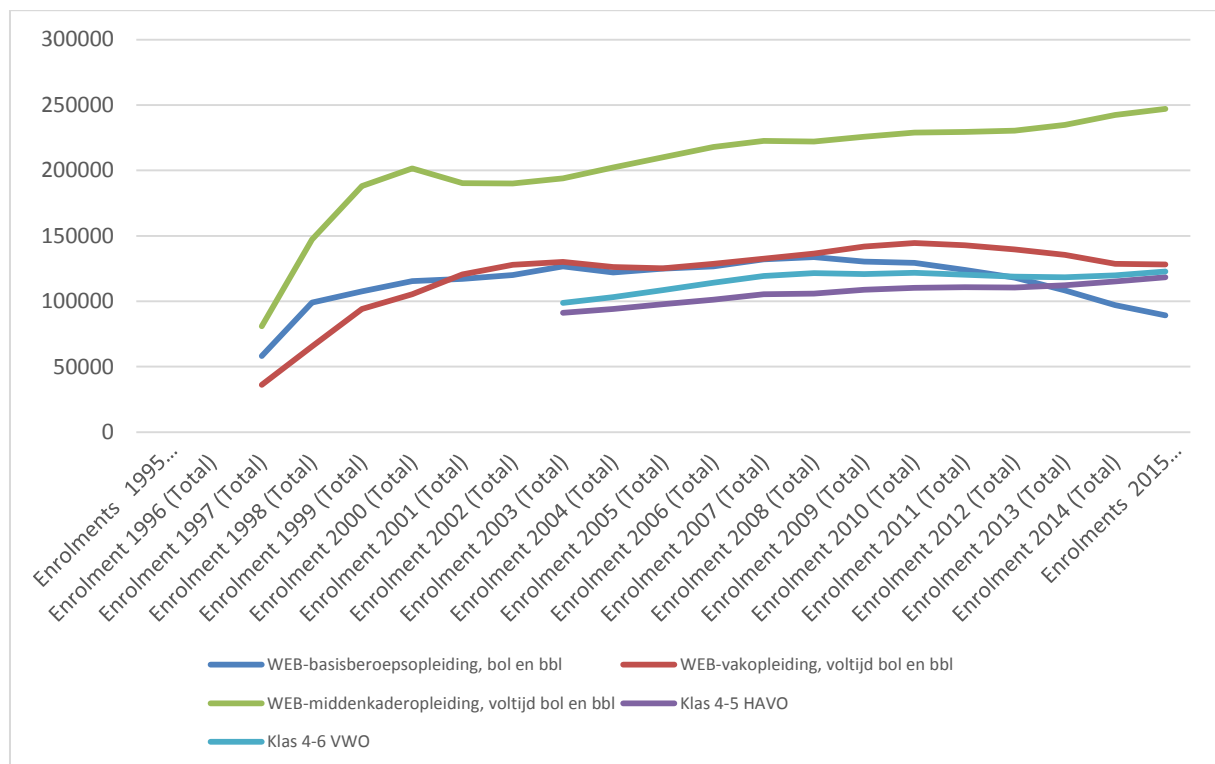
Despite the reduced ownership of employers, VET provision continues to be organised in close collaboration with the labour market. There are numerous feedback-loops between VET and employers, and the system tries to make use of the knowledge and understanding generated by these feedback-loops. These 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

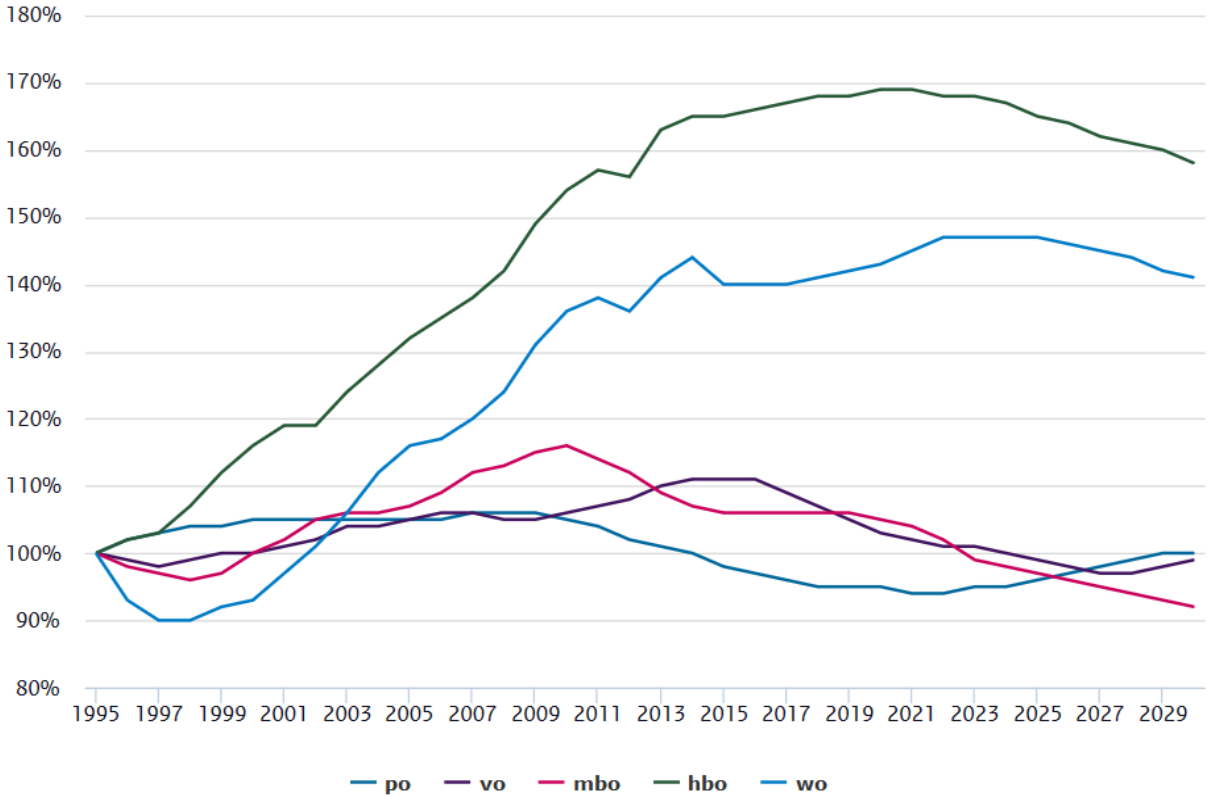


Source: various databases (CBS, DUO), compiled by author.

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



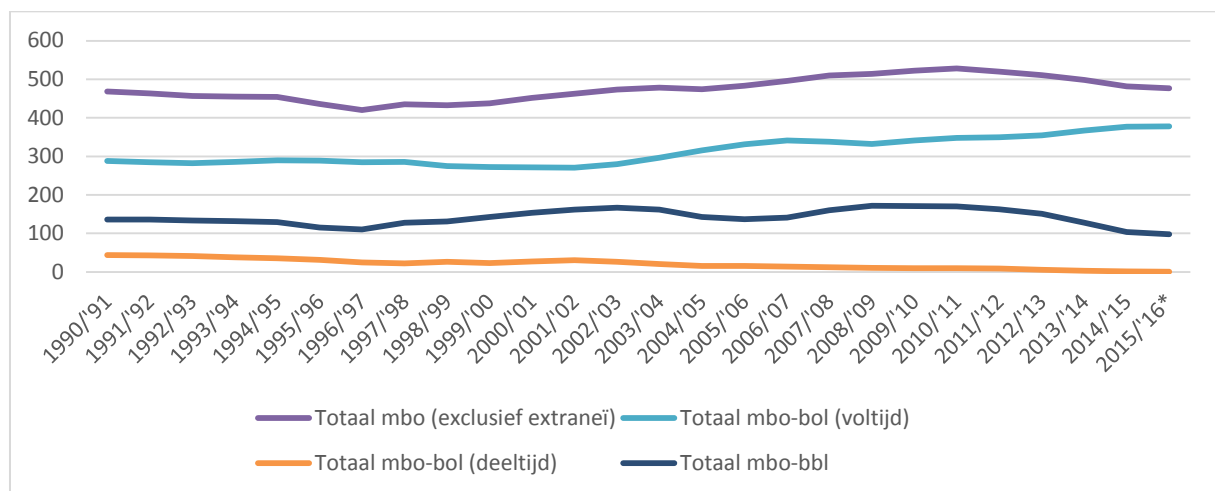
²¹ Wet educatie en beroepsonderwijs: <http://wetten.overheid.nl/BWBR0007625/2017-01-01#Hoofdstuk>
²² See: DUO: I Cijfer VO en onderwijsmatrices: <https://www.onderwijsincijfers.nl/kengetallen/voortgezet-onderwijs/deelnemersvo/leerlingen-aantallen> ; <https://www.onderwijsincijfers.nl/kengetallen/mbo/deelnemers-mbo/aantal-deelnemers-mbo>

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

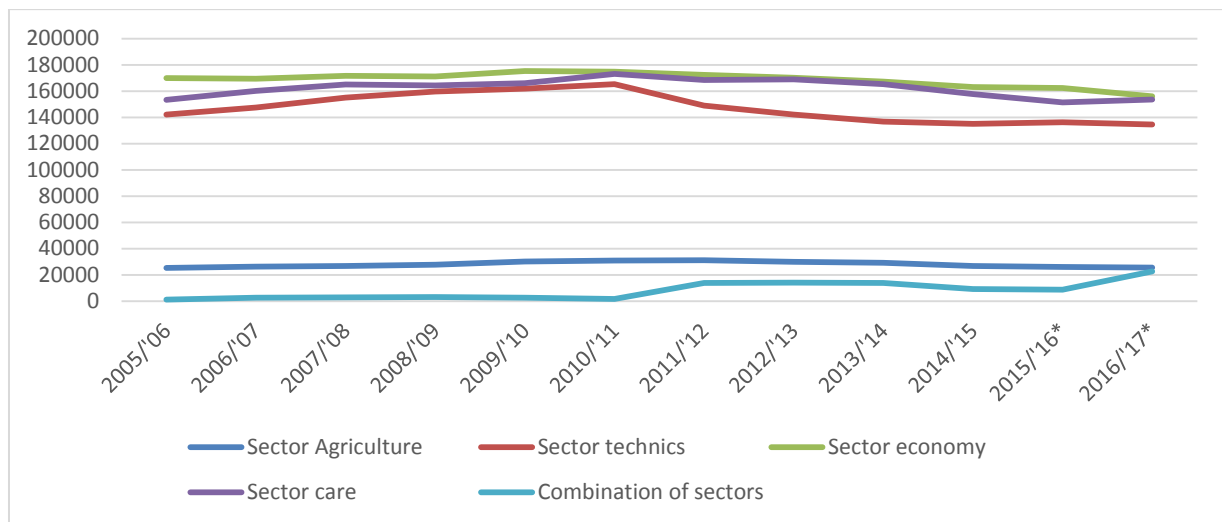
From the figure above it becomes clear that when school-based enrolment is decreasing, work-based enrolment is increasing. The introduction of the WEB (in 1996) seems to have had a positive impact on enrolment in the work-based pathway. It is interesting to see how the enrolment figures relate to economic 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.

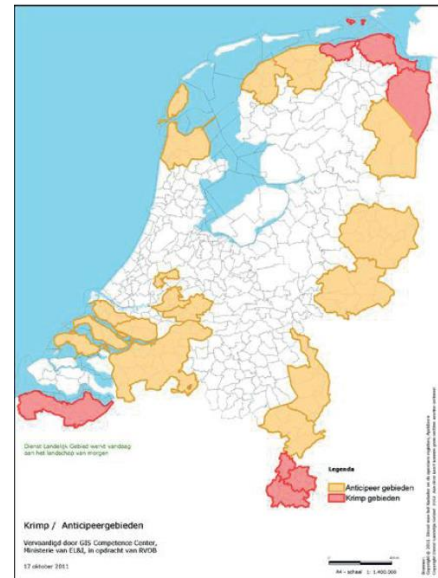
²⁴ See CBS (2017), MBO; deelnemers, opleidingsrichting in detail en sector, leerweg, niveau.

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., Buischool, 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 be 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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