

Chapter 5. Increasing the attractiveness of vocational education and training in Sweden

In Sweden, enrolment in upper-secondary vocational education and training (VET) has been falling. Chapter 5 argues that clear and workable pathways from upper-secondary VET to post-secondary education and training would increase the attractiveness of VET to students. To this end, Sweden may reinstall academic content providing eligibility for higher education into the routine coursework of VET programmes. The chapter also discusses progression pathways from upper-secondary VET to post-secondary professional programmes and argues that these post-secondary programmes should be accessible and attractive to adults returning to education.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction: Background

The introduction discusses how the role of vocational education and training (VET) has evolved over time in response to changing labour market contexts and the rising level of educational attainment in OECD countries. It then describes how upper-secondary VET is articulated with other programmes, notably at post-secondary level, in Sweden and other countries.

The role of VET has changed over time

In the past, young people often enrolled in VET to prepare for specific jobs, typically blue collar jobs in sectors such as crafts, construction and manufacturing. VET rarely provided opportunities for further learning, and higher education was commonly reserved for a small minority following prestigious academic paths. But the role of VET has changed over time. VET is now widely available at post-secondary level, in preparation for a wide range of jobs, often requiring high level technical skills, such as in radiography, information technology (IT) or banking. In most countries there are also pathways connecting upper-secondary VET programmes to higher level education. VET not only now serves young people entering the labour market, but also adults returning to education wishing to upgrade their existing skills or acquire new ones.

All of these changes were driven by increasing demand in modern economies for higher level skills. While young people and their parents increasingly aspire to higher education, ageing populations have also increased attention on the importance of lifelong learning. Many countries have reformed their VET systems, partly in response to these developments. Often countries have increased the academic content of VET programmes to allow students to continue to higher levels of education and created a range of post-secondary programmes, including shorter and more applied programmes, as well as encouraging more flexible provision suited to the needs of adult learners.

Many countries have built pathways between VET and higher education programmes

More academic content – for example mathematics - can either be integrated into VET programmes or be an optional add-on. VET programmes with integrated academic content typically provide some vocational training and leads to a qualification that gives eligibility to higher education. For example in Israel, students in school-based VET programmes pass a final upper-secondary examination required for entry to higher education, exactly like students following academic paths. Alternatively, VET programmes may not automatically offer eligibility for higher education but VET students or graduates who would like to continue into higher level programmes have the option of taking additional academic courses or qualifications. For example in Switzerland, students following the apprenticeship programme may opt to take additional courses leading to an examination that qualifies them for entry to some higher education institutions (in addition to their vocational qualification).

Upper-secondary VET programmes in Sweden allow students to continue to higher education

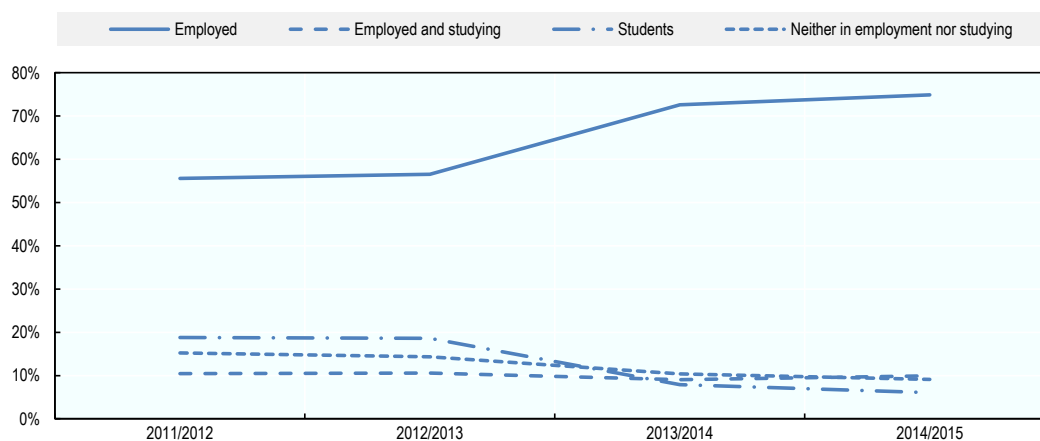
In comparison to other countries, the current Swedish upper-secondary system is relatively permeable. Clear pathways connect VET programmes to higher education, and these pathways are frequently followed. Academic courses giving eligibility to higher

education are optional but available within VET programmes. Around 70% of VET students complete their upper-secondary education with a diploma (Ministry of Education, 2018_[1]; Statistics Sweden (SCB), 2017_[2]), and of these 41% become eligible for higher education (Ministry of Education, 2018_[1]). To further improve access, since 2017, all adults have the right to study courses that give access to higher education in adult education. So the option of higher education remains open for those who did not complete their upper-secondary programme or did not acquire initial eligibility for higher education.

Falling progression rates for VET graduates may reflect the competing attractions of the labour market

In 2015, around 16% of upper-secondary VET graduates continued in post-secondary education one year after completion of their upper-secondary studies (Statistics Sweden (SCB), 2018_[3]). But, as shown in Figure 5.1, the enrolment of VET graduates in post-secondary education has been declining over recent years, probably due to improving employment opportunities. Over the same time, the rate of employment of VET graduates increased. The popularity of progression pathways may therefore reflect in part environmental factors, such as the labour market situation.

Figure 5.1. VET graduates one year after completing their studies



Source: Statistics Sweden (SCB) (2018_[3]), *Statistical Database. Education and Research* (database), http://www.statistikdatabasen.scb.se/pxweb/en/ssd/START_UF_UF0507/?rxid=7655929a-d838-4f2c-aa55-8913e51cf4d1.

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Many countries provide a range of professional post-secondary options

An OECD report (OECD, 2014_[4]) distinguishes three types of relevant postsecondary vocational qualifications:

- Post-secondary qualifications, requiring more than six months and less than three years of full-time study (or the part-time equivalent) – for example, qualifications arising from professional academy programmes in Denmark, practical engineering programmes in Israel, junior college programmes in Korea and higher vocational education and training (HVET) programmes in Sweden. Such

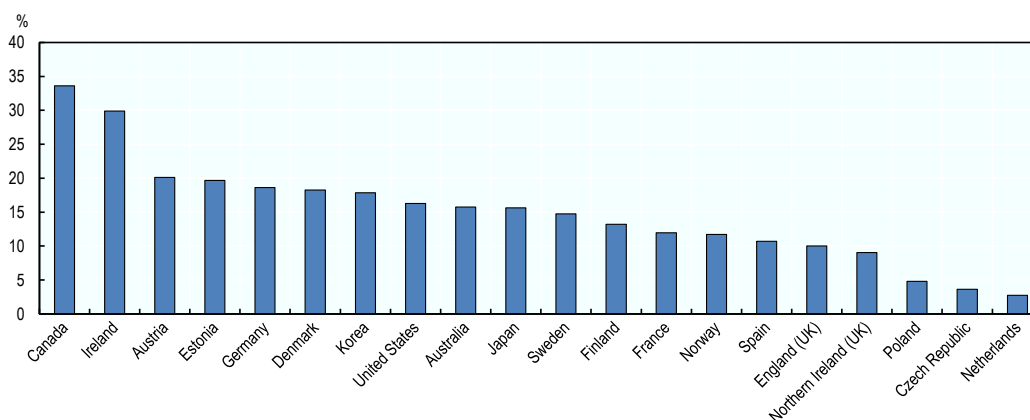
“short-cycle” post-secondary vocational programmes will be at ISCED level 4 and 5 (under ISCED 2011), and at European Qualifications Framework (EQF) level 5 and 6.

- Vocational bachelor degrees at ISCED level 6, designed to prepare graduates for occupations or careers, and sometimes described as professional bachelor degrees. These degrees are often pursued in a dedicated tier of institutions akin to universities but separate from them – some *Fachhochschulen* or universities of applied science, university colleges in Denmark, *Hogescholen* in the Netherlands, polytechnics in Finland, and universities delivering professional bachelors qualifications in Sweden. In other cases they are undertaken in universities. (In some countries there is no strict dividing line between professional and academic bachelor degrees).
- Professional examinations (sometimes also described as industry certifications) – often free of requirements for fixed programmes of study. Examples include examinations for accountants, for master builders and proprietary software certifications. Found in many different countries such as Austria, Israel, Norway and Switzerland, they typically involve a test or examination, organised by the relevant profession or industry linked to a particular occupation or competence within a profession. In some cases, they are linked to “licensed” professions – where the qualification is a legal requirement.

In the discussion that follows, these programmes may be defined as professional or VET post-secondary programmes. Separately, higher education refers to higher level university programmes including academic bachelor degrees and master degrees.

Figure 5.2. Post-secondary VET qualifications in the labour force

Percentage of adults aged 20-45 who have post-secondary VET as their highest qualification (2012)



Source: OECD (2014_[4]), *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, <http://dx.doi.org/10.1787/9789264214682-en>.

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In Sweden there are two main types of post-secondary VET provision

Professional bachelor’s degree programmes in universities and university colleges enrol 40% (or 140 000) of all post-secondary students in Sweden. In 2010/2011 nearly half of

these students starting on professional bachelor programmes were enrolled in nursing and other health related programmes. But in addition, higher vocational education (HVET) established in 2001, has grown fast (Kuczera, 2013^[5]). HVET programs are available in different areas, such as construction, finance, administration, sales, information technology (IT), tourism, healthcare, agriculture, media, design, engineering and manufacturing. More than half of the entrants to HVET completed upper-secondary VET, with an average age of around 30 (Myndigheten för yrkeshögskolan, 2017^[6]). The number of students in HVET has been increasing steadily and is expected to grow further from 50 000 today to 70 000 students in 2022 (Ministry of Education, 2018^[1]). Both professional bachelor's degrees and HVET programmes require a completed upper-secondary education. But applicants to HVET may be accepted through recognition of prior learning, assessed by the HVET provider, even if they do not meet formal requirements. Many HVET programmes also require specific entry qualifications defined by the provider such as professional experience (Swedish National Agency for Higher Education and the Ministry of Education and Research Sweden, 2013^[7]).

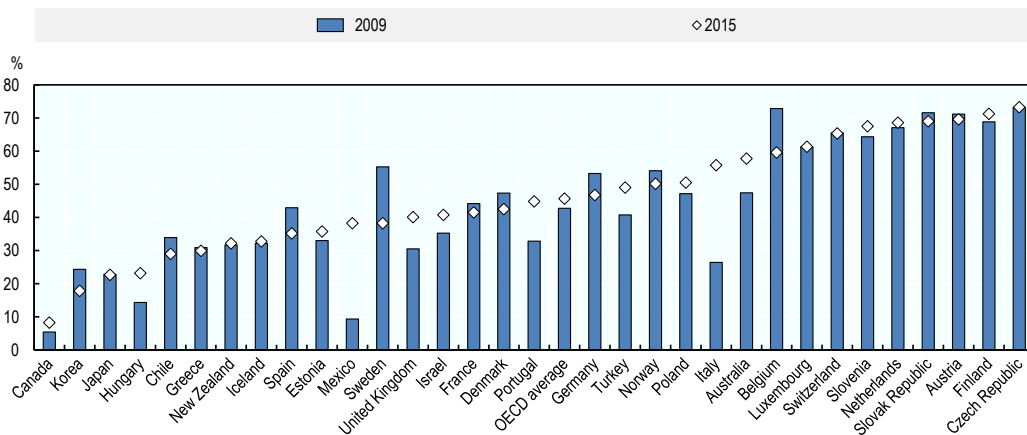
The challenge: Enrolment in VET has been falling

Sweden has recorded the highest drop in VET enrolment among the OECD countries

In 2015, on average in OECD countries 46% of upper-secondary students were enrolled in VET programmes. While this all-OECD average has been stable (Figure 5.3), in Sweden enrolment in VET dropped by 30% between 2009 and 2015, more than in any other OECD country.

Figure 5.3. Enrolment in VET in 2015 and 2009

Share of all upper-secondary students enrolled in VET programmes.



Note: Countries are ranked according to the share of enrolment in VET in 2015.

Source: OECD (2017^[8]), *Education at a Glance 2017. OECD Indicators*, <https://doi.org/10.1787/eag-2017-en>; OECD (2009^[9]), *Education at a Glance 2009. OECD Indicators*, <https://doi.org/10.1787/eag-2009-en>.

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The share of students enrolling in VET in Sweden has fallen

In 2016/17, only 33% of students in upper-secondary National Programmes were enrolled in VET programmes, compared to 53% on average in the period 2005-2010 (Ministry of Education, 2018^[1]; Statistics Sweden (SCB), 2017^[2]). A sharp decline in enrolment was recorded after 2011 reforms, suggesting that the reform may have caused the decline. Box 5.1 describes in more detail the impact of the two major reforms on transition from upper-secondary VET to post-secondary education. A reduction in the proportion of people seeking vocational programmes could be partly explained by the reclassification of the media program from a VET to an academic programme (Statistics Sweden (SCB), 2017^[2]). But it cannot explain the entire drop in enrolment. More demanding entrance requirements to higher education and the removal of automatic eligibility from VET programmes to higher education introduced by the 2011 reform may provide another explanation. Some argue that this differentiation signalled different status between the two types of National Programmes. The sharpest drop in VET enrolment observed among students with good performance who may well aspire to higher education seems to confirm it (Statistics Sweden (SCB), 2017^[2]).

Box 5.1. How pathways from VET to higher education changed over time in Sweden

An earlier reform gave VET graduates direct access to higher education

At the beginning of the 1990s Sweden broadened the general content of VET programmes, making VET and academic programmes more similar, and allowing VET students to continue to higher education. All upper-secondary students followed the same academic curriculum and all became eligible for higher education upon successful completion of the programme (Olofsson and Thunqvist, 2014^[10]). But as the authors show, following this reform around one third of all upper secondary students failed to gain eligibility for higher education (four years from the entry), with the majority coming from VET programmes.

Since 2011, VET students who wish to enter higher education have to take additional courses

A further 2011 reform reinforced the vocational content in VET programmes and increased requirements for entry to higher education in all upper-secondary programmes including VET (Ministry of Education, 2018^[1]). Following the reform, VET students were required to make active choices to undertake courses (previously included in the ordinary VET curriculum) to qualify for entry to higher education.

Source: Olofsson, J. and D. Thunqvist (2014^[10]), *Nord-VET-The future of VET in the Nordic Countries Report 1A Sweden The Swedish Model of Vocational Education and Training: Establishment, Recent Changes and Future Challenges Report 1A from the Swedish Project Group of the Nord-VET Project*, <http://nord-vet.dk/indhold/uploads/Report-1A-The-Swedish-Model-of-VET-final-2014.pdf>; Ministry of Education (2018^[1]), *Review of VET in Sweden. Background Report*.

In Sweden, young people believe upper-secondary VET programmes provide them with limited educational opportunities

Survey evidence shows that the majority of young people choose upper-secondary programmes that correspond to their interests, offer career opportunities and provide a route into higher education (UB Ungdomsbarometern, 2018_[11]). According to young people, VET programmes are perceived as preparing them poorly for higher education and lead to fewer career opportunities than academic programmes. Among those choosing VET, only 13% felt that their programme prepared them well for higher education, and only 30% thought it provided them with many options after completion. The corresponding figures for academic tracks were 55% and 63% respectively (UB Ungdomsbarometern, 2018_[11]). A Cedefop survey shows that, relative to other European Union (EU) countries, a high proportion of Swedish respondents saw VET as primarily an option for low performers. Nearly one-third of respondents in Sweden have a negative image of VET compared to the EU average of one-quarter. (Cedefop, 2017_[12]). More positively, Swedish respondents felt that VET provided an effective preparation for the labour market: 91% and 86% of respondents respectively agreed that VET provides skills needed by employers, and that it enables quick access to employment after graduation (Cedefop, 2017_[12]).

Policy options

- A strong VET system needs to be attractive to a diversity of students, including those with a stronger academic performance as well as those who are less academically oriented. The evidence suggests that the declining popularity of VET in Sweden may be related to the weak pathways from VET to higher education, and VET being perceived as an option for low performing students.
- To reverse this trend Sweden may reinstall academic content in the routine coursework in VET programmes,¹ but allow students who are less interested in academic subjects to opt out of them. Currently, all upper-secondary programmes including school-based VET and apprenticeships last three years. Combining demanding VET and academic coursework may therefore require an extension of the programme duration leading to a double qualification. The Technology Programme that can be topped up with a fourth year leading to an ‘upper-secondary’ engineering degree provides an example of a programme leading to both vocational and academic qualifications.
- Links between upper-secondary VET and the post-secondary level could usefully be strengthened and entry points from upper-secondary VET to post-secondary education diversified. For example, individuals may receive extra credits in the admission process if they bring with them the relevant work experience. Stronger and more diverse progression pathways between upper-secondary and post-secondary VET would require coordinated provision and cooperation among upper-secondary and post-secondary providers. Post-secondary institutions, including HVET institutions and/or university colleges, should be part of the proposed regional cooperation scheme discussed in Chapter 1.
- Post-secondary VET provision should be available to adults who wish to upgrade their competences. To attract working adults, programmes should be provided in a flexible way allowing for a combination of work and study. (Currently, most post-secondary VET programmes are full time).

Policy arguments and implementation

Policy argument 1. VET programmes that offer weak routes of progression are less attractive to students and employers

While initial VET programmes are often mainly designed for immediate labour market entry, in many countries they also provide a route into higher levels of education, including post-secondary programmes leading to high-paying jobs. Cross-country experience shows that initial VET programmes that have not been reformed and offer weak routes of progression become unattractive to students and employers [for example, see discussion on shorter duration VET programmes in the Netherlands in Fazekas and Litjens (2014_[13])]. In Denmark, weak opportunities for transition from apprenticeship to post-secondary education have been suggested as one cause of falling participation in youth apprenticeship (Jørgensen, 2017_[14]).

Policy argument 2: There are different models of including more academically demanding content into VET programmes

Combining vocational and academic qualifications may require more time

This report argues that if Sweden is going to introduce academic content into VET programmes and at the same time preserve their vocational orientation, the duration of some VET programmes may need to be extended, following the model of other countries. Completion of both vocational and academic qualifications may require an extra effort and time from students. In Poland, school-based upper-secondary VET programmes ending with a final exam giving eligibility to higher education are one year longer than upper-secondary academic programmes. In Switzerland, high performing apprentices can top up their apprenticeship education with a vocational baccalaureate entitling them to enrol in some higher education programmes (Swiss university of applied science). To this end apprentices can take additional courses during their apprenticeship programme, attend relevant classes after completion of the programme, or sit the exam directly (Swiss Education, 2018_[15]). In Norway, there are several points of entry to higher education. Among others, students in apprenticeship programmes can take additional academic courses while studying or a one-year bridging programme after completing their apprenticeship. In Norway, apprenticeship topped up with an extra year implies five years in total, as compared to the three years required to complete academic upper-secondary programmes (Cedefop, 2013_[16]). Denmark has recently created a hybrid qualification (EUX) providing young people both with direct access to the labour market and access to higher education. These programmes are more demanding than regular apprenticeship – one potential risk identified by some commentators is that they turn into academic programmes with the vocational element being lost (Jørgensen, 2017_[14]).

Demanding academic content may not suit all upper-secondary VET students

VET caters to a diverse population. In Switzerland, more than 70% of 15-year-olds with middle and low reading skills, and around 40% of high performers [as measured by the Programme for International Student Assessment (PISA) (2000)], enter upper-secondary vocational education (Meyer, 2003_[17]). In Sweden, there is a lot of variation in students' performance across VET programmes (Skolverket, 2017_[18]). The introduction of more demanding academic content in all VET programmes can be detrimental to less academically oriented students and may contribute to higher dropout rates. For this

reason, VET students should have the possibility of opting out from more demanding academic courses, but this should involve an active opt out. The default option would be to pursue the more demanding academic courses.

Policy argument 3: Post-secondary VET programmes often allow VET graduates to continue in education

Diversified post-secondary options and different points of entry facilitate transition from upper-secondary VET within education

In many countries, VET graduates who wish to broaden and deepen initial vocational qualifications can enter vocational post-secondary programmes. These programmes allow them to develop more advanced technical and professional skills and acquire additional skills, such as entrepreneurial or management capacity or to make sideways career moves. These options not only help to meet the increasing and changing skills requirements in the economy, but also serve to make the choice of upper-secondary VET programmes more attractive, by offering natural routes of progression and career development (Field and Guez, 2018^[19]). In Germany and the Netherlands, upper-secondary VET graduates represent more than 30% of all students in post-secondary VET. This is because there is a strong and clear articulation between upper-secondary and post-secondary VET programmes.

The value of VET qualifications could be better recognised in the admission process

Often VET graduates compete for entry to post-secondary vocational programmes with those coming from academic paths. Recognition of the value of vocational qualifications in the admission process may facilitate transition from upper-secondary VET to post-secondary programmes.

- This may involve recognition of relevant work experience in the admission procedure. For example, in Switzerland, many professional examinations, although they do not require fixed programmes of study in preparation, do require a few years of relevant work experience. In part-time programmes delivered by Professional Academies in Denmark, relevant work experience acquired as part of a VET programme counts towards the entry requirement. This means that adults with a relevant VET qualification can enter the programme directly.
- Sometimes, within a specific area of study there are direct paths through education. In Denmark, some VET programmes provide direct access to the professional bachelor programmes offered by university colleges. For example, upper-secondary VET graduates trained as Special Ambulance Assistants and Social and Health Assistants with strong academic records (they need to have met required grades in Danish, natural science and English) can enter bachelor degree programmes in nursing at university colleges, even without the high school exam. (Ministry of Education and Research Denmark, 2018^[20]). However, in practice the transition is often difficult as bachelor degrees in health are in high demand and VET graduates compete for places with peers coming from academic programmes.
- VET graduates may sometimes lack academic skills, and would benefit from additional support. For example in Australia, students with vocational backgrounds coming to university reported a big culture shock, reflecting not only

the formal work requirements, but also the different cultural codes and modes of study found in higher education and vocational programmes (Field and Guez, 2018^[19]). To address this issue in the Netherlands, upper-secondary (MBO) and post-secondary (HBO) VET providers have introduced measures supporting the transition of VET graduates into post-secondary programmes. The measures included providing extra lessons or additional projects in either the MBO or the HBO institution during the MBO programme, extra lessons and projects of other sorts within the MBO programme and other kinds of institutional co-operation (Field and Guez, 2018^[19]).

Policy argument 4. Post-secondary VET programmes targeting adult learners can be attractive to VET graduates

Post-secondary VET provided in a flexible way allows combination of work and studies

Working VET graduates will often be interested in gaining post-secondary qualifications that contribute to their career development. In Switzerland, around 20% of apprenticeship graduates in employment continue in post-secondary education within 2.5 years of completing their apprenticeship (Kuczera and Schweri, 2018^[21]). Some VET systems facilitate the return of adults to education through part-time, evening and weekend provision. In Denmark, post-secondary VET qualifications, including qualifications awarded by professional academies and university colleges, can be acquired through part-time programmes for adults. Programmes are provided in a flexible way as stand-alone modules (e.g. part time, e-learning, evening courses) allowing participants to combine work and study. Relevant work experience is required to start on a programme and is integrated into the teaching. The fact that programmes recognise the value of work experience allows participants to shorten the time spent in education and training (Sørensen, 2018^[22]). Flexible arrangements permit students either to continue working part-time, or even to go on working full-time while studying and therefore to maintain income from employment. Access to employment while studying is particularly important in countries where students in addition to the opportunity costs (lost salary) also incur a direct cost of education – tuition fees. But even in countries with free tuition (as in Sweden), the opportunity costs of full-time study are often high, discouraging many adults from continuing in education and training. Financial measures targeting adult learners should be evaluated before being introduced. Box 5.2 describes financial measures provided to support adult apprentices in selected countries. However, due to a lack of evaluation it remains unclear whether they increase participation of adults in education and training.

Box 5.2. Financial incentives for adult apprentices

Germany has been promoting apprenticeship among young adults (aged 25-35) in response to skills shortages and insufficient young apprentices in some sectors. In Germany, individuals may receive financial support for education expenses, travel, childcare, tutoring, and subsistence during the training. To encourage completion, apprentices receive a grant upon passing mid-term and final examinations. The role of these incentives in the observed increase in the proportion of apprentices over 23 (from 3% in 1993 to 12% now) is unclear.

In **Switzerland** in 2016, around 8% of apprentices were older than 24. In Switzerland, adult apprentices earn around two-thirds of the unskilled worker wage, compared to one-fifth for younger apprentices. All individuals under 35 can apply for a scholarship of a maximum CHF 12 000 per year (equivalent to two and half median monthly wage of an unskilled worker). Under some circumstance they can also apply for social assistance. Additional financial assistance is available to those who are unemployed.

In **Canada** unlike Germany and Switzerland, apprenticeship has traditionally been for adults. In Canada apprentices can receive up to CAD 4 000 (the minimum average hourly wage in Canada is CAD 11.43) during apprenticeship programme. The apprentice wage starts at around 50% of the skilled worker wage, which is higher than in Switzerland and Germany. A low completion rate is a challenge in Canada with fewer than half of all apprentices completing their programme within 11 years. The high dropout rate may be related to the fact that apprenticeships last five years, increasing the difficulty of sustained engagement.

Source: Mühlemann, S. (forthcoming_[231]), “The economics of apprenticeships for adults”, *OECD Working Papers*.

In Sweden, working adults could benefit from more flexible provision

Professional bachelor degrees are mainly offered as full-time programmes and cater to relatively young people (with 24 as the median student age). HVET programmes are better suited to the needs of adults as they prepare for career changes and allow participants to upgrade their skills within their area of specialisation. Consequently, students in HVET are older than those in academic and professional higher education. But HVET programmes are usually provided full-time (except for some individual arrangements), which may create hurdles for adults who are looking for more flexible provision. Currently the National Agency for HVET is exploring if partial qualifications could complement HVET in leading to full qualifications (Ministry of Education, 2018_[1]). Such modularised arrangements would allow adult learners to choose the modules that interest them most and obtain the qualification in a more flexible way.

Policy argument 4. Sweden can draw on its own experience

Sweden has already introduced measures to improve transition to HVET...

The Swedish government has recently introduced new measures to further improve access to HVET. HVET providers may now offer preparatory courses that aim to bring applicants up to the level where they can enter a full HVET programme. From 2017, municipal adult education (*komvux*) courses may also confer eligibility for admission to HVET. These developments are welcome.

...but the progression pathways could be further reinforced

The use of HVET by upper-secondary VET students may be limited by the following characteristics of the HVET:

- HVET remains small in size in comparison to university offerings.
- HVET is a relatively new type of provision and many students may not be well aware of the existing opportunities.
- HVET programmes are approved for a specific period of time after which they have to seek re-approval. This ensures HVET programmes match labour market needs, but introduces uncertainty into long term planning of educational progression. It may make it harder to permit the slower progress to completion implied by a part-time mode of study and discourage the development of more expensive education paths.
- Progression from HVET to university programmes can be difficult, as argued by the previous OECD review of post-secondary VET.

Stronger regional co-operation, as argued in Chapter 2, including HVET providers and university colleges, would help to address some of these issues. In the Netherlands, upper-secondary and post-secondary institutions have a great deal of autonomy, as in Sweden. Co-operation between various stakeholders is therefore extremely important. Close collaboration between upper-secondary VET (MBO) and post-secondary institutions (HBO) help to facilitate the transition from one part of the system to the other. In Sweden, collaboration between institutions might be pursued more energetically to establish articulations at local level.

Note

¹ A Bill was presented to the Parliament in the second quarter of 2018 with proposals that all VET-programmes should by default include courses necessary to obtain basic eligibility to higher education. The proposal included an opt-out solution. The Bill was rejected by the Parliament (www.regeringen.se/495397/contentassets/5bd6e1343c8f403785b394ec275d7073/okade-mojligheter-till-grundlaggande-prop.-201718.184.pdf).

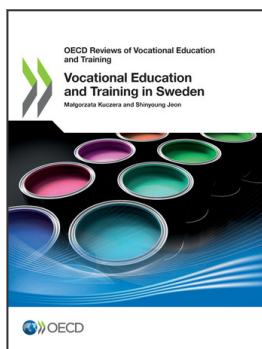
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