

# 2 Pathways into professional tertiary programmes

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In a world of rising educational aspirations and increasing skill demands in the labour market, the scope for graduates of upper secondary vocational education to enter tertiary education has often become key to the attractiveness of such programmes. This chapter therefore looks first at the different access options for vocational upper secondary graduates in different countries to enter tertiary education. For some vocational upper secondary graduates, short cycle programmes provide a stepping stone to bachelor's degrees, and are often articulated to allow such progression. It also describes the employment experience of students in different types of programme, recognising that some professional tertiary programmes are designed for working adults, and often delivered part time. Data on completion rates in bachelor's level programmes are also reported.

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## Introduction

Professional tertiary education typically takes place at career crossroads. The entry routes include general or vocational upper secondary education, an earlier tertiary qualification or years of work experience. The exit routes, following graduation, can lead into further learning. This chapter focuses both on the routes of entry into professional programmes and the education pathways open to graduates. The analysis pays particular attention to pathways for graduates of upper secondary vocational education and training for two reasons. First, the learning opportunities open to these graduates are often more restricted than those available for general upper secondary graduates. Second, professional programmes are commonly used across OECD countries as a point of entry into tertiary education for graduates of vocational education and training (VET) in particular, while also being open to students with all kinds of educational backgrounds. The analysis looks at the programmes directly accessible for upper secondary VET graduates in different countries, as well as programmes that might be accessed upon completion of professional programmes.

The second half of the next section offers a quantitative picture of the use of these pathways. It exploits data from the European Union Labour Force Survey (EU-LFS) to show how pathways for progression are used in practice. It examines the educational background of tertiary students, the employment experience of young adults between education programmes or in parallel to tertiary studies, as well as exploring the occupations of students. The last part of this chapter looks at completion rates in tertiary programmes, recognising that dropout is a widespread challenge, in particular among students with a vocational background.

## Insights from comparative data

### *Pathways for upper secondary VET graduates*

This section focuses on access arrangements from upper secondary VET to tertiary education at ISCED level 5 and above, with particular focus on professional programmes. That is not to say that professional programmes are only for VET graduates. In many countries, professional programmes also commonly serve general upper secondary graduates, and in some countries nearly all upper secondary graduates have a general background: in Canada, New Zealand or the United States schooling is broadly comprehensive and targeted occupational training is mostly postponed until after the completion of upper secondary education. In addition, adults already holding a tertiary qualification may choose to develop technical skills in a specific area through a professional programme.

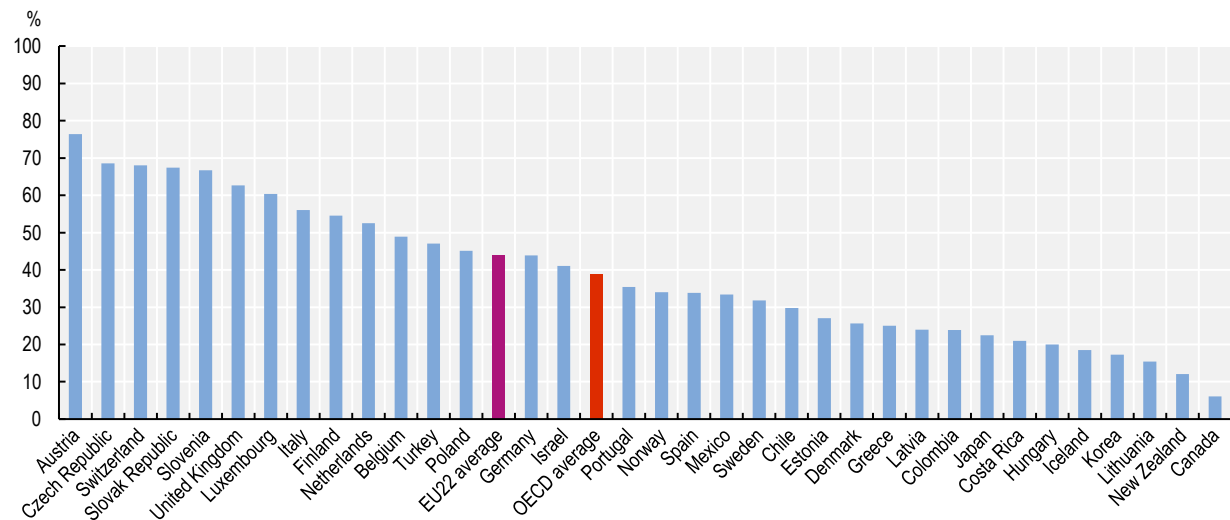
The reason for focusing specifically on access routes for upper secondary VET graduates is that for general upper secondary programmes access is not usually an issue – by definition, they are designed to prepare for higher level studies and grant eligibility to all types of tertiary programme. Vocational programmes, on the other hand, are normally primarily designed to prepare students for employment and vary, across countries and programmes, in their emphasis on preparation for further studies. Yet ensuring strong pathways from upper secondary vocational programmes to tertiary education is important for reasons related to equity, attractiveness and as a tool for raising the educational attainment of the workforce.

The equity-related reason is that education systems should ensure that nobody, at any stage in their lives, should be locked out of higher level learning opportunities. It would be wrong to say that VET graduates ‘should’ pursue tertiary studies. High-quality VET programmes should equip young people with skills for an entry level job and prepare them for successful careers. However, while not all VET graduates will pursue tertiary studies, that option should be present. VET graduates must also be equipped with the right skills, so that they can not only enter tertiary programmes, but also succeed in them, and use these further learning opportunities to realise rewarding careers. Having opportunities for higher level learning could

make VET a more attractive pathway to students at the upper-secondary level, keeping the options for students open and avoiding VET programmes to be or be seen as dead-ends.

Increasing the tertiary attainment rate among working age adults is a common objective for countries seeking to improve workforce skills. The European Union's new target for 2030 is that the share of 30-34 year-olds with a tertiary qualification should reach 45%. In countries that make extensive use of vocational programmes at upper secondary level (see Figure 2.1), raising tertiary attainment requires engaging a higher share of VET graduates in tertiary education. Professional programmes can offer an attractive form of tertiary education to VET graduates, allowing them to obtain advanced technical and managerial skills. According to estimates based on the OECD Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), upper secondary VET graduates are more likely to pursue occupations that face a high risk of automation than tertiary graduates (Vandeweyer and Verhagen, 2020<sup>[1]</sup>). Many other jobs are likely to be drastically reshaped as a result of automation. To adapt to this changing work environment, any VET graduates will therefore need to upskill or reskill in the course of their careers, and professional programmes, particularly if they are delivered part-time or flexibly, will allow them to achieve this objective.

**Figure 2.1. Share of upper secondary students graduating from a vocational programme (2018)**

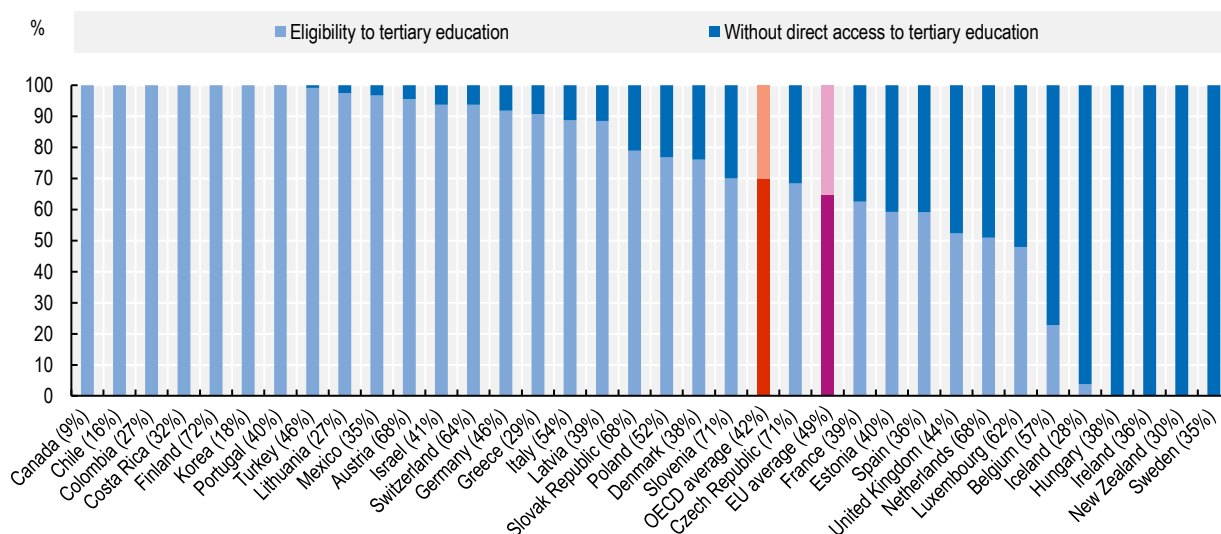


Source: OECD (2020<sup>[2]</sup>), "Education at a Glance", Education and Training – Education at a Glance (database), <https://stats.oecd.org/>.

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**Figure 2.2. Distribution of students enrolled in upper secondary VET by access to tertiary education**

Full- and part-time students enrolled in public and private institutions



Note: Figures in parentheses refer to the share of students enrolled in upper secondary vocational education as a percentage of all students enrolled at this level.

Source: OECD (2020<sup>[3]</sup>), *Education at a Glance 2020: OECD Indicators*, <https://doi.org/10.1787/69096873-en>.

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On average across OECD countries, 70% of upper-secondary VET students are enrolled in programmes that give direct access to tertiary education (Figure 2.2 Figure 2.1). Typically, in countries and programmes where vocational upper secondary qualifications do not provide direct access to tertiary education, there are options to gain eligibility (e.g. bridging courses, recognition of prior learning). The term “direct access to tertiary education” means that graduates have access to some or all programmes at a one or more higher ISCED levels. Behind this term, many countries have a more nuanced set of access arrangements. In many countries (e.g. Czech Republic, Estonia, France, Latvia, Lithuania, Norway, Slovak Republic, Slovenia, Sweden) the qualification(s) required for tertiary studies yield access to all types of tertiary education. In some, however, graduates of some (or all) vocational programmes have access to some types of tertiary education only, typically professional programmes, programmes in universities of applied sciences and/or shorter tertiary programmes. Table 2.1 provides some examples. In the absence of internationally agreed definitions, and the resulting cross-country variation in classification choices, it is not possible to distinguish access options as “access to professional programmes only” as opposed to “access to both academic and professional programmes” – for example UAS programmes are classified as academic in Switzerland and as having “unspecified orientation” in the Netherlands, although presumably similar. However, in some countries VET programmes yield access only to a particular set of programmes, which are often provided in a separate tier of tertiary education institutions such as universities of applied science or university colleges, not regular universities.

In some cases, upper secondary VET graduates may only access short-cycle tertiary programmes, although those programmes may then serve as a bridge into bachelor’s programmes. For example, in Austria graduates of school-based upper secondary VET (year 1-3 of BHS programmes) have direct access to year 4-5 of BHS, which is considered short-cycle tertiary education. Similarly, in Flanders, vocational upper secondary education provides direct access to associate degree, but not ISCED 6

programmes. In other cases direct access from upper secondary VET is only possible to certain programmes at ISCED level 6. For example, in the Netherlands VET graduates have direct access to bachelor's (or associate degree) programmes provided by UAS-s, but not to bachelor's programmes at regular universities.

There are some good arguments for limiting access of VET graduates to tertiary education – some vocational programmes put less emphasis on general skills, so that their graduates are not well-prepared to successfully pursue programmes that may be more theoretically-oriented or research-focused. At the same time, the argument advanced above for access from VET to tertiary education also applies here: while not all VET graduates will pursue studies in the “academic” tertiary sector, nobody should be locked out of such opportunities because of the upper secondary path they took. Recognising this issue, improving “permeability” in the education system (i.e. options for transition between the vocational/professional and general/academic sector) is a policy priority in various countries, in particular German-speaking ones. Bridges from VET to all types of tertiary programme may be implemented through options to obtain an upper secondary qualification required for university studies – such as the vocational matura (*Berufsmaturität*) in Switzerland or the apprenticeship with matura (*Lehre mit Matura*) option in Austria. In addition, professional programmes can also serve as a bridge into programmes that are part of the “academic sector”. In Austria and Flanders, for example, obtaining a short-cycle tertiary qualification (BHS programme and associate degree respectively) opens access to bachelor's level programmes. Table 2.1 provides some country examples.

**Table 2.1. Professional programmes as a path from VET into academic programmes**

| Country            | Upper secondary vocational programme     | Tertiary programme(s) directly accessible   | Progression options into “academic” tertiary programmes via professional programmes   |
|--------------------|--|---|---|
| Austria            | BHS years 1-3                            | BHS years 4-5 (ISCED 5)   | Graduates of years 4-5 may pursue further studies at a university or a university of applied science.   |
| Belgium (Flanders) | Vocational upper secondary (BSO-6 years) | Associate degree (ISCED 5)  | Associate degree graduates have direct access to both professional and academic bachelor's programmes.  |
| Denmark            | Vocational upper secondary               | Academy profession (ISCED 5) and some professional bachelor's programmes.   | Academy profession graduates may pursue programmes at a higher ISCED level within the same field. For graduates at level 6 this also includes academic programmes at ISCED 7 (see also ISCED mapping).  |
| Germany            | Dual system                              | Professional tertiary programmes (e.g. Master craftsman programmes, trade and technical schools, Kindergarten teacher training) | Graduates of professional tertiary programmes have direct access to academic bachelor's programmes at universities or universities of applied science, even if they do not hold the usually required upper secondary qualification ( <i>Abitur</i> ).   |
| Netherlands        | Vocational upper secondary               | Universities of applied sciences  | Upon completion of the first year of a UAS programme, students may transition into the first year of a regular university.  |
| Switzerland        | Dual system 3-4 year programmes          | PET college, professional examinations  | Individuals holding a professional qualification may be able to access programmes in universities of applied sciences, but admission not automatic. Recommendations have been made for the admission of applicants with a professional qualification to a bachelor's programme, but the admission decision is taken by individual institutions. |

Source: OECD Data collection on professional tertiary education.

Graduates of short-cycle tertiary programmes who wish to progress to higher level studies should be able to have learning outcomes from these short-cycle programmes recognised through access and course exemptions. Articulation between short-cycle and bachelor's level programmes varies across countries.

For example, in France there are clear pathways between the two levels (see Box 2.1). In several countries some, but not all programmes, have articulation arrangements with bachelor's level programmes: in Denmark, graduates of some (but not all) academy profession programmes have the option of pursuing a top-up programme of 1.5 years to obtain a professional bachelor's degree, in Scotland (United Kingdom) some HNC-s and some HND-s allow direct entry into the first or second year of degree programmes, and in Belgium (Flemish Community) the recently created associate degree programmes also allow articulation into bachelor's programmes depending on their education background and the university college.

But such articulation arrangements often depend on individual institutions, and are not systematic. A study of higher VET in Europe noted the insufficient recognition of learning outcomes from short-cycle programmes (as well as postsecondary non-tertiary programmes) in bachelor's level tertiary education (Ulicna, Luomi Messerer and Auzinger, 2016<sup>[4]</sup>). Sometimes short-cycle tertiary programmes and higher levels of education belong to different sectors in terms of governance, making transitions difficult. Provider institutions have to laboriously negotiate articulation arrangements on a programme by programme, and institution by institution basis, and may have few incentives to grant course exemptions. Students have to repeat course material, if they are not deterred from further studies by the prospect of repetition. A multinational review of professional programmes across OECD countries argued that building articulation frameworks, supported by transparency and quality measures is important to reduce such inefficiencies in national skills systems (OECD, 2014<sup>[5]</sup>).

### Box 2.1. Articulation between ISCED level 5 and 6 programmes in France

Professional bachelor's programmes usually take three years to complete. Students who have completed one year of studies at ISCED level 5 in a relevant field and validated 60 ECTS, obtain a professional bachelor's qualification after two years of additional studies. Those who completed a two-year programme, which yields 120 ECTS, need to pursue only one additional year of study to obtain a professional bachelor's degree.

Given the widespread use of the progression path from two year technological diplomas (DUT) to professional bachelor's degrees (over 85% of DUT graduates moved on to complete a professional bachelor's programme), the two programmes were consolidated in 2020 through the introduction of three-year "bachelor of technology" (BUT) qualifications.

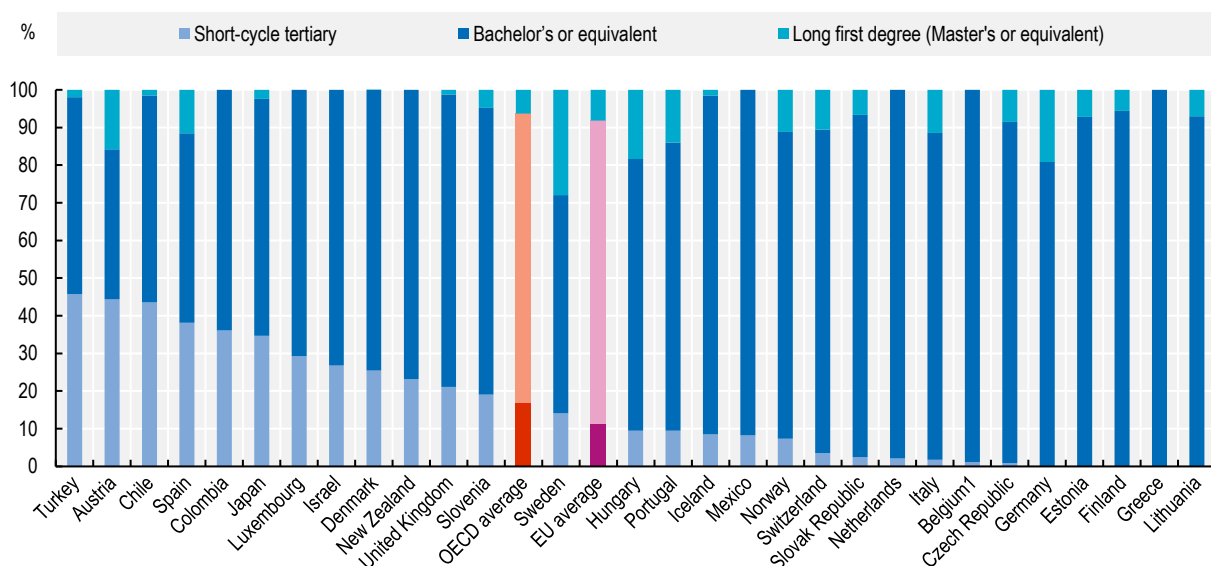
Source: Onisep (2022<sup>[6]</sup>), *Les licences professionnelles*, <https://www.onisep.fr/Choisir-mes-etudes/Apres-le-bac/Organisation-des-etudes-superieures/Les-licences-professionnelles>; OECD (2021<sup>[7]</sup>), *OECD Data collection on professional tertiary education*, Unpublished.

## **Progression patterns between different levels of education and training**

Ideally, comparative data would be available to track the progression of upper secondary graduates through postsecondary or tertiary education and the labour market. But comparative cross-sectional data typically only record the highest qualification attained by individuals and therefore contain little information about the pathway to that qualification. At the country level, some OECD countries have longitudinal surveys and/or tracer surveys that allow more in-depth analysis of pathways. This section explores progression patterns using data from the UOE data collection as well as the European Union Labour Force Survey (EU-LFS), to paint a picture of how students with different profiles enter and progress within tertiary education. One limitation of these data is that they distinguish only between levels of education and training, not the orientation of programmes. This allows for the identification of short-cycle tertiary programmes, which are treated as professional in this report, but professional programmes cannot be identified for ISCED level 6 and above. Figure 2.3 shows the level at which individuals start their first tertiary programme. Short-cycle tertiary programmes are a major point of entry into tertiary education in


some countries (e.g. Austria, Chile, Turkey, Spain). While not represented in this figure, in the United States around 40% of new entrants start their education in a community college (Shapiro et al., 2017<sup>[8]</sup>), through an associate degree. By contrast, in many OECD countries short-cycle tertiary programmes play a small role. Overall, the majority of students across OECD countries start tertiary studies at bachelor's level. A very small share of students start their tertiary studies via "long first-degree programmes" (e.g. in Europe following the implementation of the Bologna process such programmes have become less common, they often include 5-6 year programmes in specific fields like medicine). As these data refer to new entrants only, they do not capture individuals who already studied at the tertiary level and re-entered for upskilling, reskilling or other purposes.

**Figure 2.3. Distribution of new entrants by tertiary level (2018)**



1. Data for Belgium for short-cycle tertiary refer to the Flemish Community only.

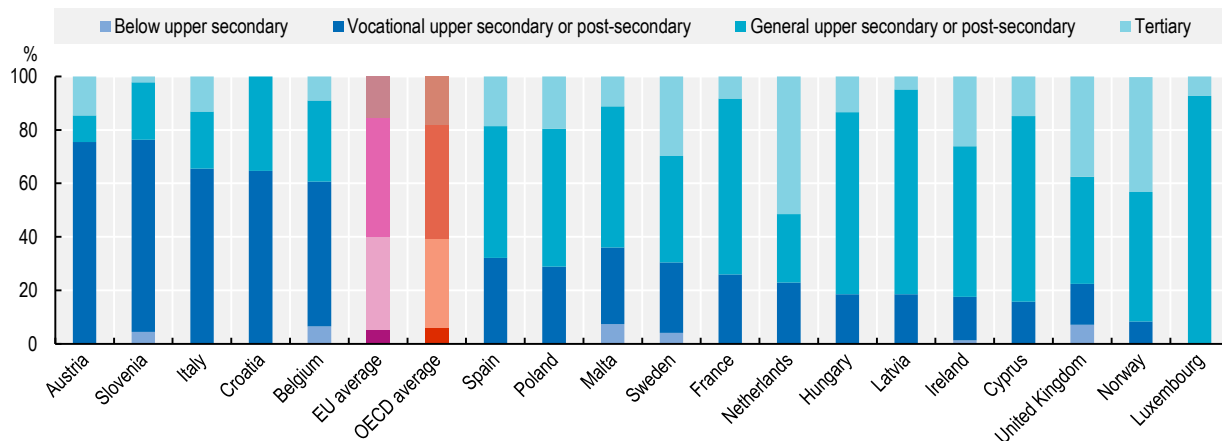
Source: OECD (2020<sup>[3]</sup>), *Education at a Glance 2020: OECD Indicators*, <https://doi.org/10.1787/69096873-en>.

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To shed some light on the educational background of tertiary students, Figure 2.4 shows the highest prior qualification of current students in short-cycle tertiary programmes (for EU countries only). In some countries (e.g. Austria, Slovenia, Italy, Croatia), short-cycle tertiary programmes mainly serve graduates of the upper secondary VET system. But in most countries VET graduates account for a minority of students at this level, and programmes enrol students with a general upper secondary background (and even a prior tertiary qualification). As these data are based on the highest qualification of individuals, the general upper secondary or postsecondary or tertiary category will sometimes include VET graduates who entered short-cycle programmes via these other programmes. For example, when VET graduates pursue a bridging course to gain eligibility for tertiary education, and therefore report that course as their highest qualification, they will appear under the "general upper secondary or postsecondary" category. In Norway, for example, such preparatory courses (which may be taken after a four-year vocational programme) yield a general upper secondary qualification, and therefore more short-cycle tertiary students may hold a VET qualification than the figure suggests.



**Figure 2.4. Distribution of educational attainment of students in short-cycle tertiary programmes (2017-2019 pooled)**

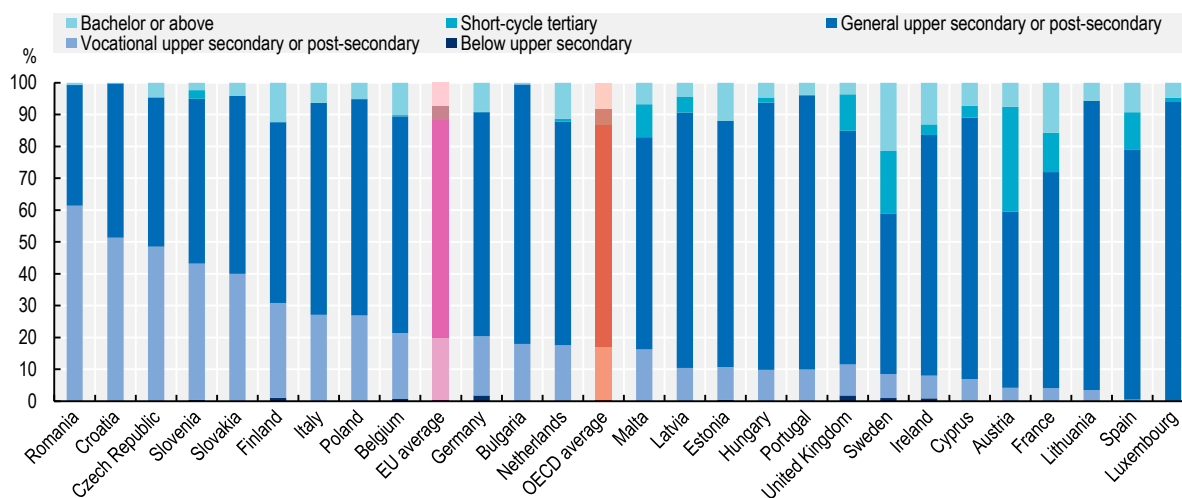


Note: Data include only students aged 34 or less or who obtained their highest qualification up to 15 years prior to the survey. Averages refer to unweighted averages of available countries.  
 Source: European Union Labour Force Survey (2017, 2018, 2019).

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Figure 2.5 shows the prior attainment of current bachelor’s level students. In most cases, bachelor’s level students come directly from upper secondary education (the extent to which they pursue employment in between is discussed below). Pursuing short-cycle tertiary education before entering ISCED 6 programmes is common in only a few countries (e.g. Austria, Sweden, Spain, France, United Kingdom). In some of those countries short-cycle tertiary programmes appear to be used by VET graduates for transition into bachelor’s level programmes. For example, in Austria, France, Malta, Spain and Sweden short-cycle tertiary graduates comprise over 10% of ISCED 6 students, while upper secondary VET graduates account for over a quarter of short-cycle tertiary students (see Figure 2.4).

**Figure 2.5. Distribution of educational attainment of students in ISCED level 6 programmes (2017- 2019 pooled)**



Note: Data include only students aged 34 or less or who obtained their highest qualification up to 15 years prior to the survey. Averages refer to unweighted averages of available countries.  
 Source: European Union Labour Force Survey (2017, 2018, 2019).

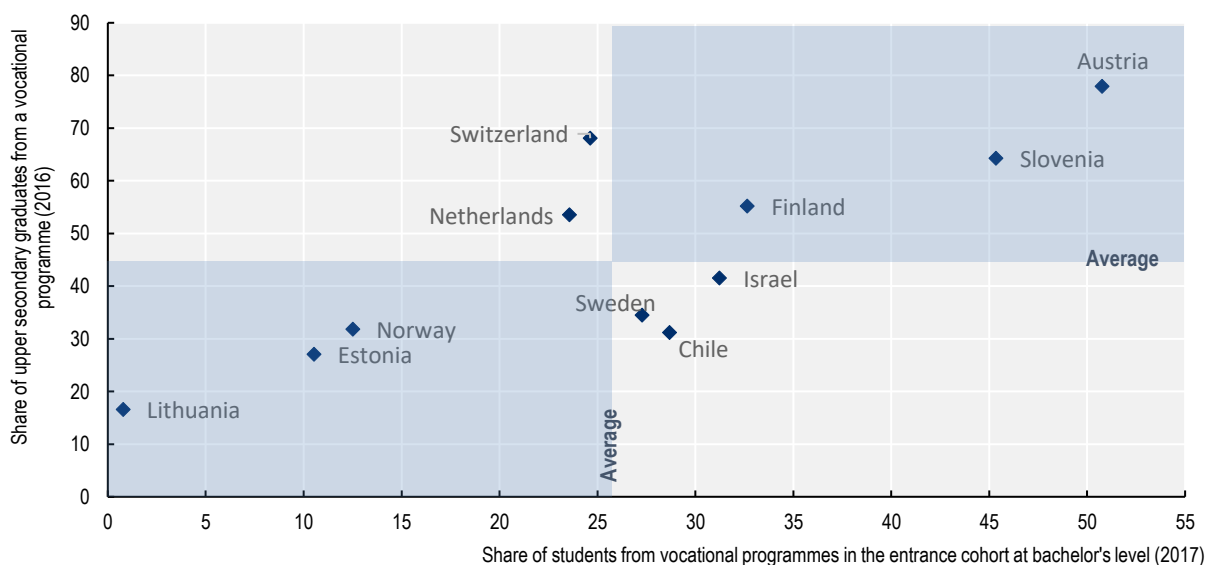
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As explained above, the available comparative data, based on highest qualification, provide poor measures of the use of short-cycle tertiary programmes as a pathway from upper secondary education into bachelor's level programmes. However, some insights can be gained from the "OECD Ad hoc survey on tertiary completion", which collected information on the orientation of the upper secondary education of students in ISCED 6 programmes. In countries where bridging and short-cycle tertiary programme are widely used as a stepping stone into ISCED 6 programmes, this survey helps to complete the picture.


Figure 2.6 shows the share of ISCED 6 students holding an upper secondary VET qualification as their highest attainment, and the share of students who graduated from upper secondary education with a vocational qualification a year earlier (the latter provides a strong indication of the importance of the upper secondary VET system as a route of entry into ISCED 6, though of course not all upper secondary graduates will immediately enter a bachelor's programme). Countries in the upper half of the figure have a relatively large (above cross-country average) VET system, and those on the right hand side of the figure a relatively high share (above cross-country average) of VET graduates among ISCED 6 students. For example, Austria, Finland and Slovenia have both a relatively large upper secondary VET sector and relatively high share VET graduates among bachelor's level students. In Austria clearly a much higher share of ISCED 6 students have a vocational background than suggested by the attainment data in Figure 2.5 – indeed national data show over one in four university students and over 50% of UAS (*Fachhochschule*) students have a vocational qualification (mostly BHS) (Statistik Austria, 2021<sup>[9]</sup>).

**Figure 2.6. Relationship between the share of graduates from upper secondary vocational programmes and their share in the entrance cohort at bachelor's level (2017)**



Note: The entrance cohort refers to the share of upper secondary graduates who completed a vocational programme a year earlier. Data on graduates refer to 2018 for Estonia and Switzerland.

Source: OECD (2019<sup>[10]</sup>), *Education at a Glance 2019: OECD Indicators*, <https://doi.org/10.1787/f8d7880d-en>; OECD (2020<sup>[2]</sup>), "Education at a Glance", Education and Training – Education at a Glance (database), <https://stats.oecd.org/>.

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Several countries have implemented measures designed to assist VET and sometimes professional tertiary graduates to progress into higher levels of education. These include various tools, such as adjusting admission criteria to take into account relevant work experience, lowering academic entry requirements or using quotas (see Box 2.2 for some examples).

### Box 2.2. Making professional programmes more accessible to VET graduates

#### Portugal

For the 2020/21 academic year, 2 615 new places were reserved for students who completed upper secondary education via vocational pathways and specialised arts courses. This new access route is designed to broaden the social base of higher education, where VET graduates are currently underrepresented. The target for 2023 is that 40% of those who graduate from VET enter higher education. In addition, there is a target for adult participation: they should account for 10% of new students at polytechnics and universities by 2023.

#### Denmark

Admission to higher education is based on a system of “Coordinated Admission”, which involves two quotas designed to make professional programmes more accessible for applicants with lower GPA-s. One set of places (quota 1) are allocated based solely on GPA performance in the upper secondary examination. An additional set of places (quota 2) are allocated based on the assessment of individual institutions: they take into account additional criteria, such as work experience, volunteer work, other qualifications, admission tests or interviews. While the allocation of quotas varies between study programmes, professional programmes represent a higher share of quota 2 places than academic programmes.

#### Lithuania

While applicants to all tertiary programmes are required to have a secondary education diploma and pass secondary school examinations, admission requirements to colleges are less demanding than to universities (i.e. lower grades and fewer examinations). In addition, a vocational qualification yields extra points in the admission system for colleges.

Source: OECD Data collection on professional tertiary education.

### ***Employment experience among students***

Progression between different levels of education sometimes involves spells of employment between programmes, or parallel to studies. Across different countries and programmes, the extent of work experience and its nature (relevant to a vocational qualification or not) varies greatly. Work experience may build on an earlier (typically vocational) qualification and, as a person’s career progresses, lead into an advanced programme to deepen or broaden skills linked to their occupation. This is common among adults pursuing master craftsman qualifications and other professional examinations, which are open only to experienced professionals who typically continue working while preparing for their examination. In other cases, individuals have work experience that does not build on vocational skills, either because the person does not have a vocational qualification or pursued employment unrelated to their qualification. Such work experience can still develop useful generic skills, like team work or conflict management, but it does not play a role of building up technical skills, on which a higher level, professional qualification might build. Some of that experience will be student jobs, pursued to financially support ongoing studies, and periods of employment before engaging in further studies.

This section exploits data from the European Union Labour Force Survey to look at the work experience of students. The data cover both the current work and past employment experience of students. Including current employment is important, as in professional programmes in some countries it is very common to work parallel to pursuing tertiary studies (see Chapter 3 on part-time participation). In the analysis past and current employment are grouped to allow for sufficiently large sample sizes. Ideally, data would also show whether current studies are in the same field as the prior qualification, revealing whether studies are used for progression within the same sector or for a career shift. Unfortunately, this is not possible with the EU-LFS dataset, as data on the current fields of study are no longer collected.

### Box 2.3. Analysing the employment experience of students with EU-LFS data

For students who are in work, the analysis uses their current occupation. For students who are not in work, the dataset allows to identify whether they have previous employment experience. Such previous experience excludes compulsory military or civil service and purely occasional work. The latest occupation is the occupation in their previous job.

The occupations held by students are grouped into four categories:

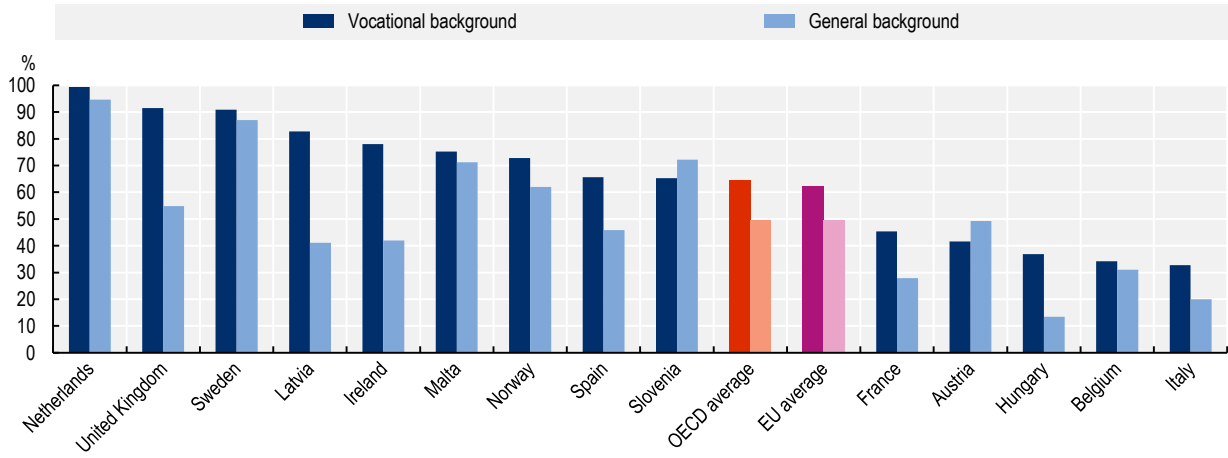
- High-skilled white collar: managers, professionals, technicians and associate professionals.
- High-skilled blue collar: Skilled agricultural, forestry and fishery workers, craft and related trades workers.
- Low-to-medium skilled white collar: Clerical support workers, service and sales workers.
- Low-to-medium skilled blue collar: Plant and machine operators, and assemblers, elementary occupations.

Among short-cycle tertiary students it is relatively common to have employment experience, especially among students with a vocational upper secondary background (see Figure 2.7). On average over 60% of short-cycle tertiary students with a VET background either work parallel to their studies or have worked in the past.

For VET graduates the question arises to what extent they work in skilled occupations, which may build on their vocational qualification. Figure 2.8 shows the latest occupation held by current short-cycle tertiary students with a vocational upper secondary qualification. Data for general upper secondary graduates are not included here, because sample sizes were too small for most countries and the question of the relevance of the earlier occupational qualification does not arise for general education graduates. It shows that at least a quarter of VET graduates in short-cycle tertiary programmes hold (or held in their last job) a high-skilled white collar in the Netherlands, the United Kingdom, France, Sweden and Austria. In addition, a considerable share (between 15 and 25%) of VET graduates have held high-skilled blue-collar occupations in France, Austria, Slovenia and Spain. Finally, some of the occupations in the low-to-medium skilled category might be related to vocational qualifications, as some programmes in the field of business and management prepare for jobs as “service and sales” and “clerical support” workers.

**Figure 2.7. Share of short-cycle tertiary students with employment experience (2017-2019 pooled)**

Current students with ISCED 3-4 attainment who are employed or have previous employment experience, by orientation of prior qualification



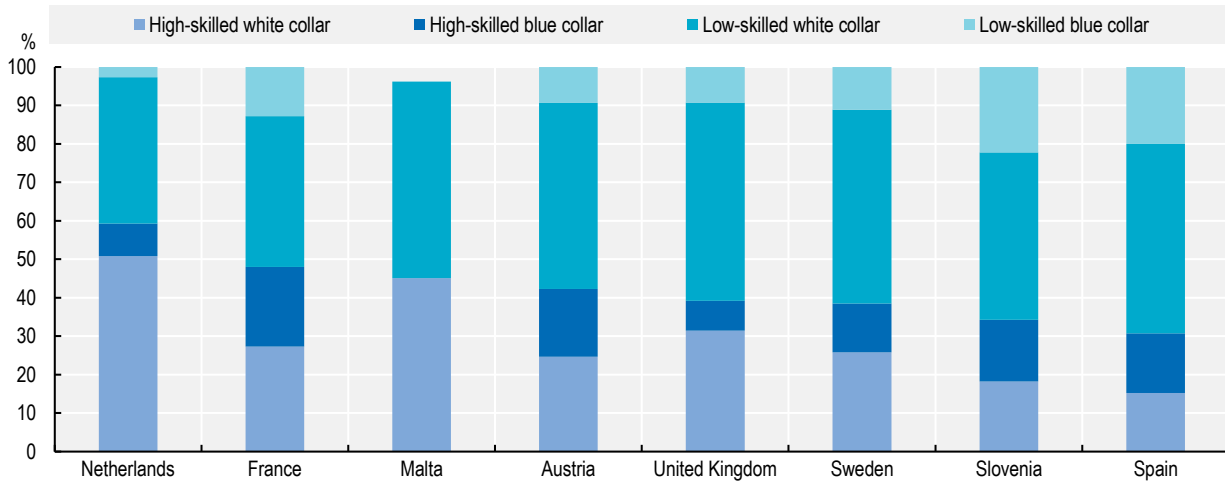
Note: Data include only individuals whose highest qualification is ISCED 3 or 4, and are aged less than 35 or obtained their highest qualification up to 15 years before the survey. Averages refer to unweighted averages of available countries. Purely occasional work, such as vacation work, compulsory military or community service are excluded.

Source: European Union Labour Force Survey (2017, 2018, 2019).

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**Figure 2.8. Latest occupation held by ISCED 5 students with a VET background (2017-2019 pooled)**

Current or last occupation held by students with vocational upper secondary or postsecondary attainment



Note: Data include only individuals aged 34 or less or who obtained their highest qualification up to 15 years before the survey. Averages refer to unweighted averages of available countries. Data for Malta have limited reliability due to small sample sizes. Data are presented only for countries with at least two categories above the publication threshold for reliability. Categories may not add up to 100% because data below the publication threshold for reliability are excluded.

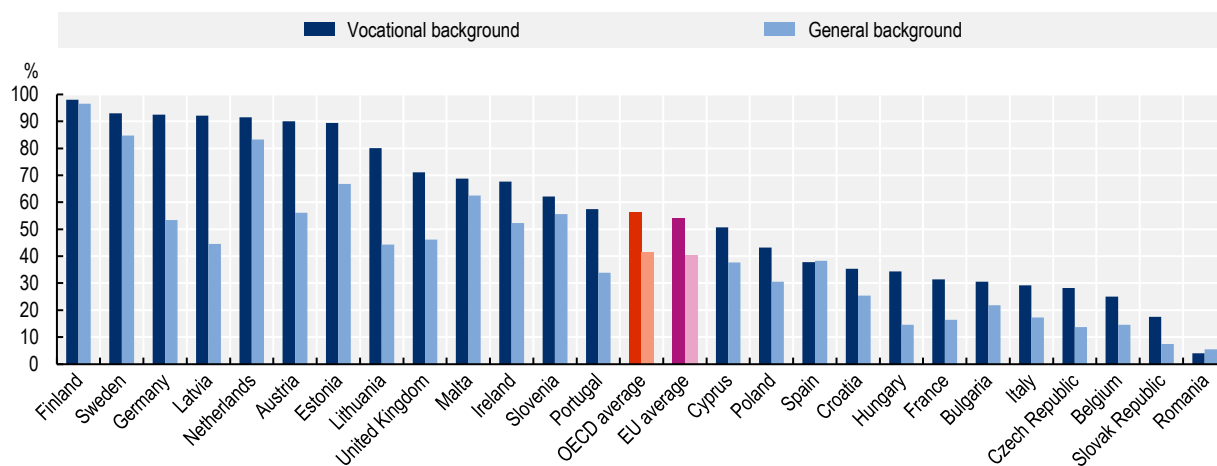
Source: European Union Labour Force Survey (2017, 2018, 2019).

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Among countries with data available both for ISCED 5 and ISCED 6 students, the share of students with past or current work experience is similar on average for both categories. For the larger set of countries covered by Figure 2.10, the share of students having work experience is lower on average. As illustrated by Figure 2.9, students with a prior vocational qualification more commonly have employment experience than students with a general upper secondary background (this chart excludes those who gained an upper secondary qualification and pursued a short-cycle tertiary programme before ISCED 6 studies, as only the highest qualification of individuals is captured by the data). The results reflect different underlying reasons across countries – in Finland, for example, the highly selective admission process into tertiary education often leads to one or more gap years, during which young people prepare for admission and often work in the meantime. In Germany, professional examinations typically build on several years of work experience, explaining the high share of VET graduates with employment experience. But in several other countries work experience is less common, in seven countries even among VET graduates, less than a third have employment experience (in these countries bachelor's level students tend to be younger as well, as suggested by data in Chapter 3).

**Figure 2.9. Share of ISCED level 6 students with employment experience (2017-2019 pooled)**

Current students with ISCED 3-4 attainment who are employed or have previous employment experience, by orientation of prior attainment



Note: Data include only individuals whose highest qualification is ISCED 3 or 4, are aged less than 35 or obtained their highest qualification up to 15 years before the survey. Averages refer to unweighted averages of available countries. Purely occasional work, such as vacation work, compulsory military or community service are excluded.

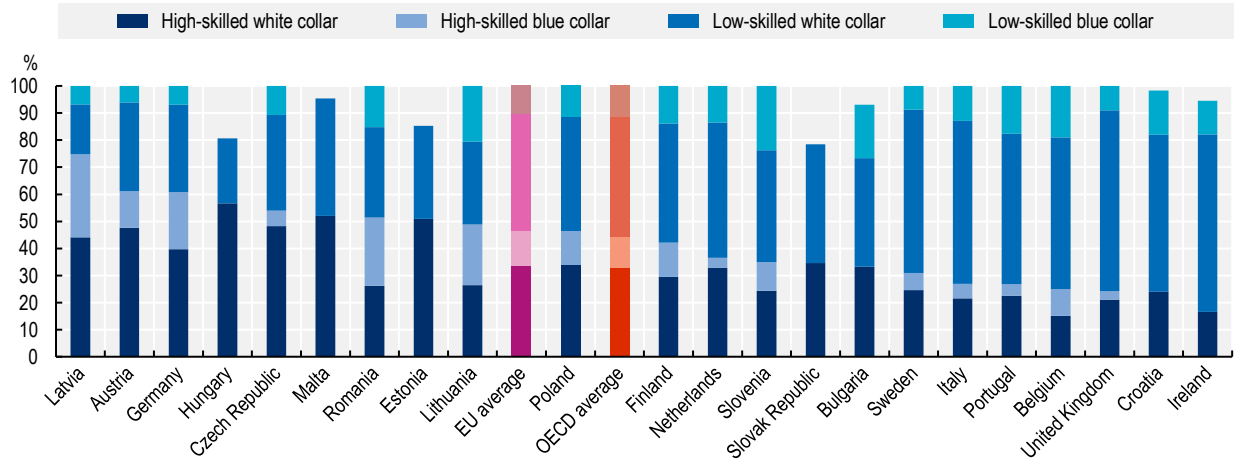
Source: European Union Labour Force Survey (2017, 2018, 2019).

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Here again the question arises whether the work pursued by students is in skilled occupations, which their studies might build on, or in low-skilled occupations. Figure 2.10 shows the latest occupation held by students pursuing an ISCED 6 qualification for students with a vocational vs. general upper secondary background. In Latvia, Austria and Germany around 90% of VET graduates who pursue an ISCED 6 programme have current or past work experience and mostly in high-skilled occupations. Within high-skilled occupations, having employment experience in white-collar occupations is more common among ISCED 6 students than in blue-collar occupations. On average, over 40% of VET graduates who pursue ISCED 6 programmes hold (or held as their last occupation) a high-skilled job. This share is higher than for general upper secondary graduates, among whom about 30% work or worked in a high-skilled occupation (see Figure 2.11).

**Figure 2.10. Latest occupation held by ISCED level 6 students with a vocational background (2017-19 pooled)**

Current or last occupation held by students with vocational upper secondary or postsecondary attainment

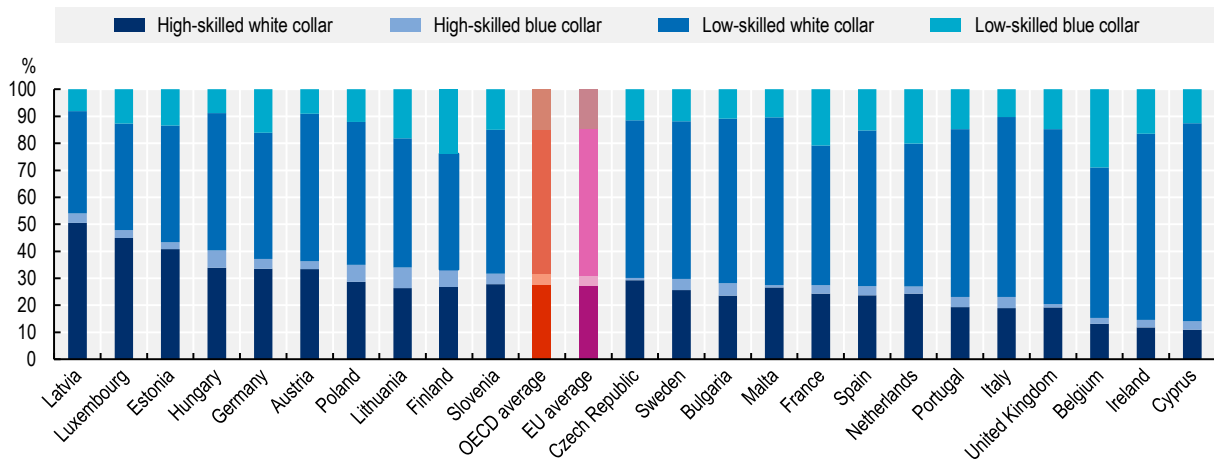


Note: Data include only individuals who are aged 34 or less or obtained their highest qualification up to 15 years before the survey. Averages refer to unweighted averages of available countries. Data are presented only for countries with at least two categories above the publication threshold for reliability. Categories may not add up to 100% because data below the publication threshold for reliability are excluded. Source: European Union Labour Force Survey (2017, 2018, 2019).

StatLink <https://stat.link/56wf9h>

**Figure 2.11. Latest occupation held by ISCED level 6 students with a general education background (2017-2019 pooled)**

Current or last occupation held by students with general upper secondary or postsecondary attainment



Note: Data include only individuals who are aged 34 or less or obtained their highest qualification up to 15 years before the survey. Averages refer to unweighted averages of available countries. Source: European Union Labour Force Survey (2017, 2018, 2019).

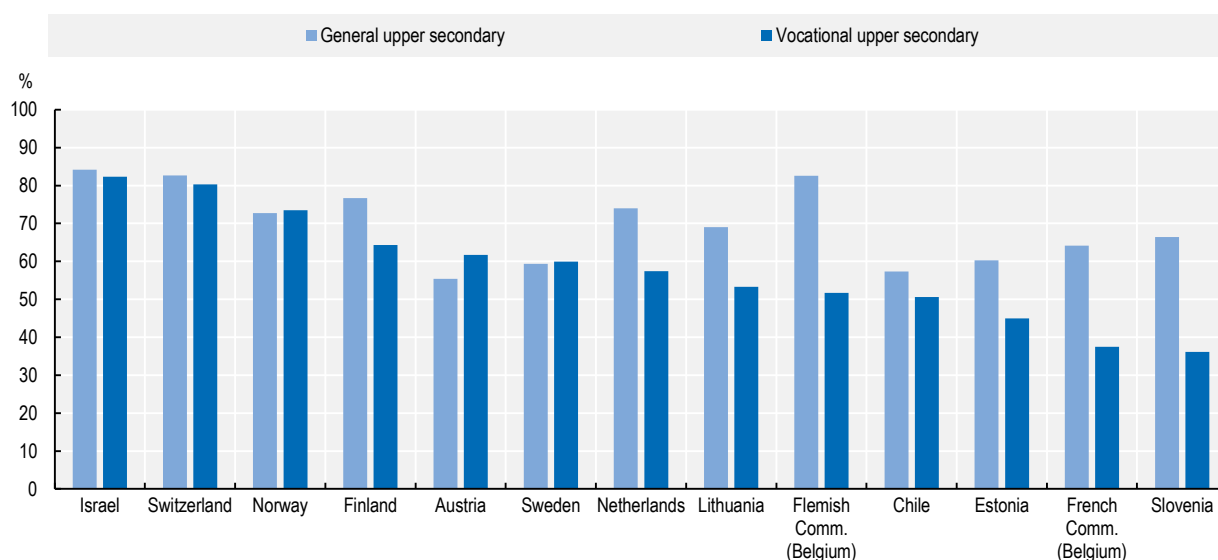
StatLink <https://stat.link/09dsul>

### Completion rates in bachelor's level programmes

Achieving high completion rates in tertiary education is a widespread challenge, especially for students with a vocational background (see Figure 2.12). Data from the OECD “Ad hoc survey on tertiary completion” provide completion rates for students in bachelor's level programmes and allow for distinction by upper secondary background (regardless of whether participants pursued at ISCED level 4 or 5 programme between their upper secondary qualification and ISCED 6 studies). Completion rates are lower for VET graduates than for general upper secondary graduates in several countries, including Belgium (both Flemish and French Speaking communities), Slovenia, Lithuania, the Netherlands, Estonia and Finland. While the data do not allow for a breakdown by programme orientation, the completion challenge is likely to be particularly prominent in programmes that are classified as professional or applied, although classified otherwise in international data collections, as in many countries VET graduates more commonly attend such institutions than general upper secondary graduates (in the Netherlands and Finland, for example, VET graduates who pursue ISCED 6 studies mainly attend UAS-s).


**Figure 2.12. Completion rate of ISCED level 6 students (2017)**

Completion within 3 years after the theoretical duration of the programme by orientation of upper secondary qualification.



Note: True cohort only.

Source: OECD (2019<sup>[10]</sup>), *Education at a Glance 2019: OECD Indicators*, <https://doi.org/10.1787/f8d7880d-en>.

StatLink  <https://stat.link/oz6r8v>

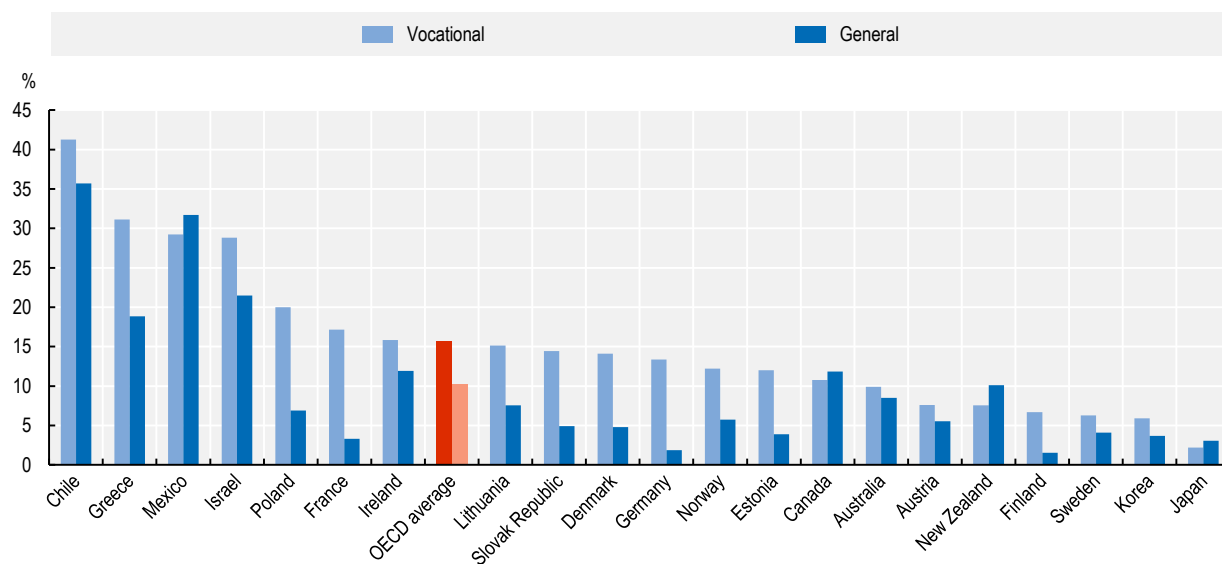
Weaknesses in academic skills, especially literacy and numeracy, are often viewed as a barrier to participation and successful completion in tertiary programmes. Results from the OECD Survey of Adult Skills (PIAAC) show that in many countries a large share of young people leave the upper secondary VET system with weak basic skills (see Figure 2.13). In these countries the share of low literacy performers is also high among young adults with a general upper secondary qualification (and tertiary completion rates tend to be lower too). In almost all countries, the share of young adults with at most an upper-secondary or post-secondary non-tertiary VET who have weak literacy skills is higher than among those with a general qualification at the same level. (In Canada and New Zealand, which are exceptions, the results might be driven by the fact that VET graduates are mostly at ISCED 4, and thus have pursued more education than



general upper secondary graduates). This means that successfully engaging VET graduates in tertiary studies requires targeted measures in some countries, such as screening for weaknesses in basic skills and offering remedial courses to those who need it.


**Figure 2.13. Share of young people with weak literacy skills, by programme orientation (2012, 2015 or 2017)**

16-34 year-olds with upper secondary or postsecondary non tertiary attainment



Note: Weak literacy skills are defined here as below level 2. Data refer to 2015 for Chile, Greece, Israel, Lithuania, New Zealand, Slovenia and Turkey. Data refer to 2017 for Hungary, Mexico, and the United States. All other countries refer to 2012.

Source: OECD Survey of Adult Skills (PIAAC), <https://www.oecd.org/skills/piaac/>

StatLink  <https://stat.link/yfq4o3>

## Conclusion

In many countries professional tertiary programmes (including practically-oriented, applied programmes that are not classified this way by countries) are designed to play a key role in providing upskilling opportunities for VET graduates.

- In some countries, short-cycle tertiary programmes and bachelor's programmes in UAS-s (or similar institutions with a practical focus) are the only tertiary education option that is directly accessible for upper secondary VET graduates (e.g. in the Netherlands they have direct access to UAS programmes but not regular universities). They also often act as a bridge into the “academic sector” of higher education for upper secondary VET graduates, supporting permeability between the professional and academic sectors of higher education (e.g. in Germany professional tertiary graduates may enter university programmes even if they lack the usually required entrance qualification).
- Some countries have clear options for progression from ISCED 5 to ISCED 6 programmes, typically requiring students to complete 1-2 years of additional education within a related field to obtain a bachelor's level qualification (e.g. top-up programmes for professional academy graduates).

in Denmark). But in many cases articulation remains elusive and dependent on decisions by individual institutions.

Cross-sectional data on current tertiary students provide the following insights into progression patterns:

- Most students start tertiary studies directly at ISCED level 6 following their upper secondary education. Short-cycle tertiary programmes are a common entry route into ISCED level 6 in only a handful of countries (e.g. Austria, France, Spain, Sweden).
- In some countries short-cycle tertiary programmes serve mostly upper secondary VET graduates.
- Having some work experience before or during tertiary studies is quite common, particularly among short-cycle tertiary students and students with a vocational upper secondary background. For both levels, pursuing or having past experience in high-skilled occupations is more common among VET graduates. In some countries the high share of work experience in high-skilled occupations reflects the formal requirement for students to have such experience (e.g. professional examinations in Austria, Germany and Switzerland).

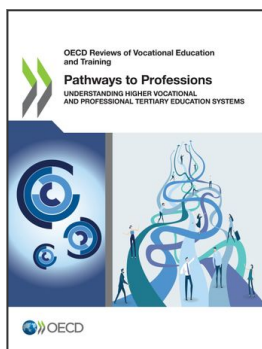
Increasing completion rates, in particular in professional programmes and for students with a vocational upper secondary background, is a challenge in many countries:

- Students with a vocational upper secondary background who pursue ISCED 6 programmes have lower completion rates in many countries than those with a general education background. While data are not available by programme orientation, the completion challenge is likely to particularly concern professional programmes.

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