in Paris in 2018 (Paris Communiqué), short-cycle tertiary education programmes were formally included as a stand-alone qualification within the QF-EHEA, as their importance in preparing students for employment and further studies, and in improving social cohesion, was recognised. EHEA countries can decide whether and how to integrate short-cycle programmes into their own national framework (Paris Communiqué, 2018[9]).

In 2016-17, around half of the EHEA systems offered short-cycle programmes as part of their higher education offering (European Commission, EACEA and Eurydice, 2018[8]). Short-cycle programmes are also available in the participating jurisdictions, though they are not always considered as part of the higher education system. For example in **Estonia**, short-cycle programmes were offered until 2009, but they have been re-classified as vocational programmes at lower levels of education.

In **Norway**, short-cycle programmes at the ISCED 5 level are offered through vocational colleges (*fagskole*) that are not recognised as part of the higher education system. Norway also offers a two-year programme (*høgskolekandidatgrad*) at the ISCED 6 level, and students who successfully complete the two-year programme can enter into the third year of a three-year bachelor's programme in the same field.

On the other hand, in **the Netherlands**, short-cycle programmes (associate degrees) were introduced in 2007 as a pilot scheme and were recognised as higher education programmes in 2013. They were originally only offered as integrated programmes within bachelor's programmes at professional HEIs. From 2018, short-cycle programmes have become separate programmes, and are no longer part of bachelor's programmes. In **the Flemish Community,** short-cycle programmes (associate degrees) were introduced in 2009[2].

Box 2.1. The Bologna Process and the European Higher Education Area

The Bologna Process is a voluntary intergovernmental process at the European level aimed at increasing cross-national comparability in higher education systems by implementing reforms in higher education based on a set of common and fundamental values.

The move towards greater comparability began when the Sorbonne Declaration was signed by France, Germany, Italy and the United Kingdom in 1998. In 1999, the Bologna Declaration was launched and 29 European countries agreed to commit to the creation of compatible and comparable higher education systems. At the Ministerial Conference in Budapest and Vienna in 2010 (the Budapest/Vienna Communiqué), the European Higher Education Area (EHEA) was officially launched. There are currently 48 member states in the EHEA.

To become a member of the EHEA, countries must be party to the European Cultural Convention and declare their willingness to pursue and implement the objectives of the Bologna Process in their own higher education systems.

The Bologna Declaration in 1999 set six goals

- adoption of a system of easily readable and comparable degrees
- adoption of a system essentially based on three cycles (bachelor's / master's / doctoral)
- establishment of a system of credits
- promotion of mobility of students, teachers, researchers and administrative staff
- promotion of European co-operation in quality assurance

- promotion of the necessary European dimensions in higher education.

The EHEA countries have developed an overarching framework of qualifications for the European Higher Education Area (QF-EHEA), common principles for the development of student-centred learning, the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), the Register of Quality Assurance Agencies (European Quality Assurance Register, EQAR), and a number of common tools, such as the European Credit Transfer and Accumulation System (ECTS) Users' Guide, the Diploma Supplement and the Council of Europe/UNESCO Convention (often referred to as the Lisbon Recognition Convention).

New goals for the EHEA beyond 2020 were discussed at the Ministerial Conference in Paris in 2018 (the Paris Communiqué). They include: promoting active citizenship, linking the EHEA and the European Research Area (ERA), using digital technologies, supporting students from non-traditional backgrounds (including the provision of lifelong learning), enhancing teacher support and improving professional recognition of qualifications.

Source: Bologna Declaration (1999[6]), Joint declaration of the European Ministers of Education convened in Bologna on 19 June 1999 (Bologna Declaration), www.ehea.info/media.ehea.info/file/Ministerial_conferences/02/8/1999_Bologna_Declaration_English_553028.pdf; Working Group on Policy Development for New EHEA Goals 2015-2018 (2017[10]), Policy Development for New EHEA goals: Final Report of Working Group 3, www.ehea.info/media.ehea.info/file/2018_Paris/72/7/MEN_conf-EHEA_WG3_03_950727.pdf.

Qualifications frameworks

Qualifications frameworks aim to make qualification systems more transparent and coherent by describing the knowledge, skills, autonomy and responsibility students will have acquired on successful completion of each level of qualification (European Centre for the Development of Vocational Training, 2010[11]). These descriptors (learning outcomes) indicate the relative complexity of the qualifications at each level. They may also describe the level of autonomy required to demonstrate or apply the knowledge, skills and competences acquired at each level.

The classification of qualifications through a system of levels allows the comparison of qualifications and shows how students can progress from one level to another. In this way, qualifications frameworks help students, those designing and developing higher education programmes, employers and policy makers to understand and recognise qualifications.

Qualifications frameworks are important in promoting mobility within education systems, as well as for the transparency and portability of qualifications internationally. The clear articulation of expected learning outcomes at each level can also contribute to lifelong learning, the recognition of learning and skills, and improving the quality of education (Tuck, 2007[12]).

The QF-EHEA is a meta-framework that can be used to compare different national systems. This promotes comparability and compatibility between the different higher education systems across the EHEA. In 2008, the European Commission developed a broader meta-qualifications framework, the European Qualifications Framework for Lifelong Learning (EQF), which encompasses eight education and training levels from the primary school level through the doctorate level. Individual countries can use the EQF to develop their own NQFs for all levels of education. All participating jurisdictions have developed an NQF that has been referenced to the EQF and self-certified to the QF-EHEA.

Regions outside of Europe are introducing similar initiatives. Countries in the Southern African Development Community (SADC) have developed the Southern African Development Community Qualifications Framework (SADCQF) for school education, technical and vocational education and training, and higher education. The SADCQF aims to facilitate the movement of learners and workers across the SADC region and internationally. It was established in 2011 by the SADC Ministers of Education and is currently being implemented across the region (Keevy, Chakroun and Deij, 2010[13]; Jaftha and Samuels, 2017[14]). In addition, the Caribbean Community (CARICOM) has developed a technical and vocational education and training (TVET) qualifications framework; and the Association of Southeast Asian Nations (ASEAN) has developed a Qualifications Reference Framework (Keevy and Chakroun, 2015[15]).

UNESCO has also established a number of regional conventions in order to strengthen and promote intergovernmental co-operation in recognising qualifications. Recent conventions include the Council of Europe and UNESCO Convention on the Recognition of Qualifications concerning Higher Education in the European Region in 1997 (the Lisbon Recognition Convention), the UNESCO Asia-Pacific Regional Convention on the Recognition of Qualifications in Higher Education in 2011 (the Tokyo Convention) and the UNESCO Revised Convention on the Recognition of Studies, Certificates, Diplomas, Degrees and Other Academic Qualifications in Higher Education in African States in 2014 (the Addis Convention). They outline the principles for recognition of higher education qualifications to help increase transparency and facilitate cross-border mobility of students, academic staff and professionals across the region (UNESCO, 2018[16]). Additionally, in 2016, UNESCO established a committee developing a draft text of a Global Convention on the Recognition of Higher Education Qualifications (UNESCO, 2018[17]).

Distribution of students across programme levels

The distribution of students across higher education levels varies across OECD countries. On average, 11% of all students in higher education were enrolled in short-cycle tertiary education programmes in 2016 (Figure 2.1). Some countries, such as Australia and the United States, have relatively large proportions of students enrolled in short-cycle programmes, while other countries, such as Germany and Finland, do not provide education at this level at all. The majority of students (64% in 2016) were enrolled in bachelor's level programmes, while 22% were studying in master's level programmes and 4% were undertaking doctoral level studies.

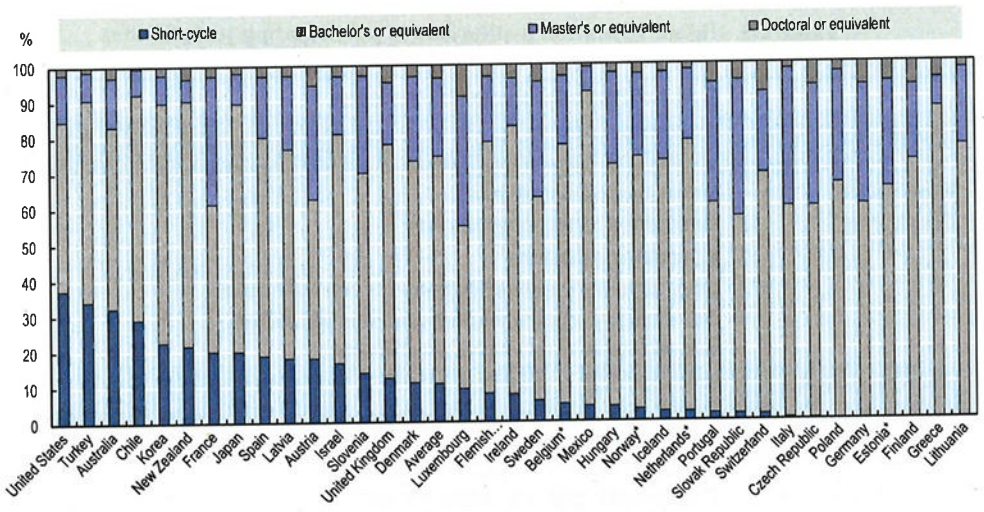
A greater proportion of students tend to be enrolled in master's and doctoral programmes in European countries than in other OECD countries. In 2016, while students in master's level programmes accounted for more than one-third of all higher education students in some countries, such as Czech Republic, France, Italy and Portugal, the proportion was less than 10% in others, including Chile, Mexico and New Zealand. Doctoral students represented more than 5% of enrolments in Austria, Czech Republic, Estonia, Finland, Germany, Luxembourg, Portugal and Switzerland; while the percentage was less than 1% in Chile and Mexico.

Most students in the participating jurisdictions were enrolled in bachelor's level programmes in 2016, from 65% in Estonia to 76% in the Netherlands, which was above the OECD average of 64% (Table 2.2). Short-cycle tertiary education programmes are not as common in these jurisdictions as they are in other OECD countries; enrolments at this level in the Flemish Community (8%) and the Netherlands (2%) were below the OECD

average of 11% in 2016. However, enrolments in these programmes have been increasing rapidly in these two jurisdictions.

The proportion of students enrolling in master's programmes was higher than the OECD average (22%) in Estonia (30%) and Norway (23%), while it was lower than the average in the Flemish Community (18%) and the Netherlands (20%). Estonia had 6% of its higher education students in doctoral programmes in 2016, which was above the OECD average of 4%, whereas the remaining jurisdictions were below the average. The Netherlands had a particularly low share of doctoral students with 1.8% of students enrolled at this level, less than half of the OECD average share.

Figure 2.1. Distribution of student enrolments across ISCED levels (2016)



Note: *Participating in the Benchmarking Higher Education System Performance exercise 2017/2018.
Countries are ranked in descending order of the share of students enrolled in short-cycle tertiary education programmes.
Data on doctoral students exclude those who are employed outside of higher education.
Source: Adapted from OECD (2018[18]), *OECD Education Statistics*, http://dx.doi.org/10.1787/edu-data-en; data provided by the Flemish Ministry of Education and Training.

StatLink https://doi.org/10.1787/888933940417

Table 2.2. Distribution of enrolments across ISCED levels, participating jurisdictions (2016)

	Short-cycle	Bachelor's	Master's	Doctoral
Estonia	-	64.9%	29.6%	5.5%
The Flemish Community	7.9%	70.5%	18.3%	3.3%
The Netherlands	2.4%	76.0%	19.8%	1.8%
Norway	3.3%	70.7%	23.3%	2.8%
OECD average	10.7%	63.7%	21.9%	3.7%

Note: Data on doctoral programmes exclude doctoral students who are employed outside of higher education.
See Annex 2A for student enrolment numbers across ISCED levels in the participating jurisdictions.
Source: Figure 2.1.

2.2.2. Classifications of higher education institutions

As noted in Chapter 1, there are over 18 000 heterogeneous higher education institutions across the world, with diverse profiles, missions, organisation and status. The different types of institutions include universities; colleges; polytechnics; professional, vocational and specialist institutions; and research institutions, among others, depending on the national context. These institutions can be public or private and have varying levels of government recognition.

The categories of higher education institutions differ across participating jurisdictions (Table 2.3). In all jurisdictions, there are both public and private higher education institutions. In the Flemish Community and the Netherlands, institutions are further differentiated by whether they have been recognised by the government.

Table 2.3. Higher education institutions in participating jurisdictions

	Types of higher education institutions
Estonia	Universities (*ülikool*) Professional higher education institutions (*rakenduskõrgkool*)
The Flemish Community	Universities (*universiteiten*) University colleges (*hogescholen*) Specialised institutions[3] Other statutory registered higher education institutions Non-statutory registered higher education institutions Non-registered higher education institutions
The Netherlands	Universities (*universiteiten*) Universities of applied sciences (*hoger beroepsonderwijs* (HBO) institutions, formerly *hogescholen*) The Open University (*Open Universiteit*) Recognised higher education institutions Non-recognised higher education institutions
Norway	Universities (*universitet*) Specialised university institutions (*vitenskapelig høgskole*) University colleges (*høgskole*) Private higher education institutions

Higher education institutions can be classified and differentiated in many ways, according to who owns and funds them, their missions and orientations, and their status in relation to other higher education institutions. These differences can lead to the creation of distinct subsectors within a broader higher education system. Institutions are often categorised in groups across the system (horizontal differentiation) according to their missions, profiles and approaches to fulfilling their functions. Differences within the system can also exist on the basis of a formal or informal hierarchy of institutions (vertical differentiation or stratification) (Clark, 1983[19]; Marginson, 2016[20]).

Horizontal differentiation

Horizontal diversity in higher education institutions can help accommodate the varying needs of a heterogeneous society. In addition to varying missions, governance arrangements and internal organisation, other distinguishing features could include legal foundation, size, services and differences in student population (Birnbaum, 1983[21]). Differences between institutions can be historically inherited, or arise from socio-political

context, government policy and regulation (Marginson, 2017[22]). Key distinguishing features (Birnbaum, 1983[21]; Teichler, 2007[23]) include:

- types of institutions: universities or other higher education institutions
- sectors of control: public or private
- types of programmes: academic or professional orientation
- levels of programmes: delivery of programmes at ISCED levels 5 to 8 or specific levels
- institutional focus: research or teaching
- modes of teaching: face-to-face, online or blended
- discipline coverage: comprehensive coverage of all disciplinary domains or specialisation in particular fields.

As seen in Table 2.3, there are varying degrees of horizontal diversification in the participating jurisdictions. The key differentiating factor in Estonia, the Flemish Community and the Netherlands is the distinction between universities, which have a predominantly academic focus, and other institutions, which have a predominantly professional focus. This is discussed further in the following section.

Box 2.2. Classification systems of higher education institutions

The United States

Since the 1970s, the United States has used the Carnegie Classification of Institutions of Higher Education to classify higher education institutions according to the highest degree level awarded:

- doctoral universities: associate degrees to doctorates (ISCED 5 to 8)
- master's colleges and universities: associate degrees to master's (ISCED 5 to 7)
- baccalaureate colleges: associate degrees and bachelor's (ISCED 5 and 6)
- associate's colleges: associate degrees (ISCED 5).

There are also special focus institutions (which specialise in a single field or set of related fields) and tribal colleges (which are members of the American Indian Higher Education Consortium).

Each category is further defined with subcategories based on additional factors such as the level of research activity, the number of degrees conferred, the disciplinary focus and student types (Borden, Coates and Bringle, 2018[24]).

Japan

Higher education institutions in Japan are differentiated on the basis of the types and levels of programmes offered (OECD, 2018[25]):

- Universities and graduate schools are academically oriented.
  - universities: bachelor's degrees (ISCED 6)
  - graduate schools: master's degrees (ISCED 7) and doctorates (ISCED 8)
- The remaining higher education institutions are professionally oriented.
  - junior colleges: associate degrees (ISCED 5)

- professional graduate schools: professional master's degrees (ISCED 7)
- colleges of technology: title of associate (ISCED 5) (these institutions admit lower secondary school graduates and provide practical education over a five-year period)
- professional training colleges: diplomas and advanced diplomas (ISCED 5).

Binary higher education systems

A number of countries operate on a binary system where higher education institutions are divided into two main subsectors based on the types of programmes they deliver. The academically oriented institutions usually have a strong research focus and are able to award doctorates. The professionally oriented institutions, on the other hand, generally have more emphasis on work-based education. Other higher education institutions may exist outside the two main subsectors to fulfil specific educational needs, for example, art, music or military academies and specialist higher education institutions.

Some countries have moved from a binary system to a unified system in recent decades, attempting to minimise horizontal differences. For example, Australia abolished the binary divide between universities and colleges of advanced education in 1987 and created a unified national system. The non-university sector either amalgamated into new universities or merged with existing universities. The United Kingdom also eliminated the binary divide in 1992 and now has a unitary system that is primarily dominated by universities. Similarly, by 2005, the Swedish higher education system had transformed into a uniform system by granting university status to all university colleges.

However, binary systems still exist in a number of OECD countries, for instance Austria, Finland, Germany, Portugal, South Korea and Switzerland. Within the jurisdictions participating in this benchmarking exercise, Estonia, the Flemish Community and the Netherlands have a binary higher education system (Table 2.4). In the Flemish Community and the Netherlands, some higher education institutions exist outside the binary system, such as specialist higher education institutions. However, they do not attract large numbers of students.

Table 2.4. Binary systems in participating jurisdictions

	Higher education institutions mainly offering academically oriented programmes	Higher education institutions mainly offering professionally oriented programmes
Estonia	Universities (*ülikool*)	Professional higher education institutions (*rakenduskõrgkool*)
The Flemish Community	Universities (*universiteiten*)	University colleges (*hogescholen*)
The Netherlands	Universities (*universiteiten*)	Universities of applied sciences (*hoger beroepsonderwijs* (HBO) institutions, formerly *hogescholen*)

There is no formal international naming convention for higher education subsectors in a binary system. The terms "universities" and "professional higher education institutions (professional HEIs)" are used throughout this report when discussing subsectoral differences in the binary systems in the participating jurisdictions.

In Estonia, the Flemish Community and the Netherlands, there is a distinction between universities and professional HEIs to varying degrees, in terms of their governance and legal rights; their functions; and the levels of programmes they can offer. Access to different types of funding also differs between the two subsectors in the participating jurisdictions, particularly research funding, which is largely provided to universities (see Chapter 3).

Estonia has two distinct types of ISCED level 6 programmes: a bachelor's programme (which awards a bachelor's degree, *bakalaureusekraad*) and a professional higher education programme (which awards a professional higher education diploma, *rakenduskõrgharidusõppe diplom*). Bachelor's programmes have a theoretically based curriculum, and aim to broaden the scope of general education and develop the basic knowledge and skills in specific fields of study required to continue at the master's level or to gain access to the labour market. Professional higher education programmes, on the other hand, are based on a curriculum that is focused on practical training for specific professions. At least 15% of the study load in professional higher education programmes must be work-based learning.

Universities and professional HEIs in Estonia are regulated by separate legislation (the Universities Act 1995 and the Institutions of Professional Higher Education Act 1998). In theory, both universities and professional HEIs are able to offer the two types of bachelor programmes. However, in practice, universities mainly deliver bachelor's programmes and professional HEIs predominantly offer professional higher education programmes. Both universities and professional HEIs are able to offer master's degree programmes. However, only universities can offer doctoral programmes (a diagram of the Estonian education system is available in Annex 2B).

The Flemish Community has a binary system with professional HEIs focusing mainly on occupationally specific and labour market relevant education and training, and providing regional coverage to support access. A decree was introduced in 2003 that required all professional HEIs to develop "associations" with a university. The associations are official bodies where co-operation between a university and one or more university colleges is formally established. The key goals of the associations were to align all Flemish programmes with the Bologna structure (Box 2.1), including academically oriented programmes offered by professional HEIs; build better connections between the two sectors; improve efficiency of programme offerings and reduce overlap. The associations also facilitate transfer arrangements for students from one type of institution to another, as well as the development of learning pathways across education levels and subsectors.

Preventing fragmentation of research capacity has become a key priority over time in the Flemish Community, and this has led to a much clearer binary distinction and strengthening of the university sector. A 2012 decree integrated academic bachelor's programmes fully within universities (Williams, 2017[26]). As of the academic year of 2013-2014, with some exceptions, universities offer programmes with an academic orientation (*academisch gerichte*) at bachelor's, master's and doctoral levels, while professional HEIs offer programmes with a professional orientation (*professioneel gerichte*) at short-cycle tertiary education[4] and bachelor's levels (a diagram of the Flemish education system is available in Annex 2B).

The binary system is a key feature of the **Dutch** higher education system, which provides a distinction between universities and professional HEIs with complementary strengths. Universities mainly offer research oriented education (*wetenschappelijk onderwijs,* WO)

at bachelor's, master's and doctoral levels. Professional HEIs, on the other hand, deliver higher professional education (*hoger beroepsonderwijs*, HBO) at short-cycle tertiary education and bachelor's levels (and master's level in some cases). Traditionally, professional HEIs were not engaged in research activities. However, they have been encouraged to specialise in applied research in recent years (a diagram of the Dutch education system is available in Annex 2B).

Norway created a binary system in the 1960s and 1970s through the establishment of regional colleges and a process of upgrading a number of specialised colleges (engineering, nursing, etc.). Regional colleges provided short-cycle professional and vocational programmes, as well as some academic oriented programmes for basic, undergraduate and graduate education in areas where no universities operated (Williams, 2017[26]). However, a series of royal decrees in 1981, 1989 and 1991 ended the binary system, and a series of mergers took place in the early 1990s, peaking in 1994 when 98 small regional colleges were merged into 26 public colleges (later referred to as university colleges). The differences between universities and university colleges were reduced when the government brought universities and university colleges under the same legislative framework in 1995.

The Norwegian government has encouraged the merger of universities and university colleges as a way of enhancing competitiveness for resources and students (including through greater geographic coverage), to amalgamate similar study programmes and achieve efficiency, and to strengthen performance (OECD, 2018[27]). Larger and more comprehensive institutions could offer stronger academic programmes, give more programme and module options for students, provide better student services and have a greater capacity for organisational flexibility (Harman and Harman, 2003[28]). During the most recent wave of institutional mergers in 2015-17[5], many university colleges were either incorporated into universities or obtained university status.

Public and private institutions

The divide between public and private institutions is an important feature of many higher education systems. In the UNESCO, OECD and Eurostat (UOE) data manual, public and private higher education insitutions are classified primarily according to the locus of institutional control, rather than by who provides the majority of funding. Control is determined according to who has the majority of power to set policies and design the operations and practices of the insitution.

Private institutions can be further divided into government-dependent private and independent private institutions based on the source of funding (UOE, 2018[29]):

- A government-dependent private institution is one that either receives at least 50 percent of its core funding from government agencies or one whose teaching personnel are paid for by a government agency.
- An independent private institution is one that receives less than 50 percent of its core funding from government agencies, and whose teaching personnel are not paid for by a government agency.

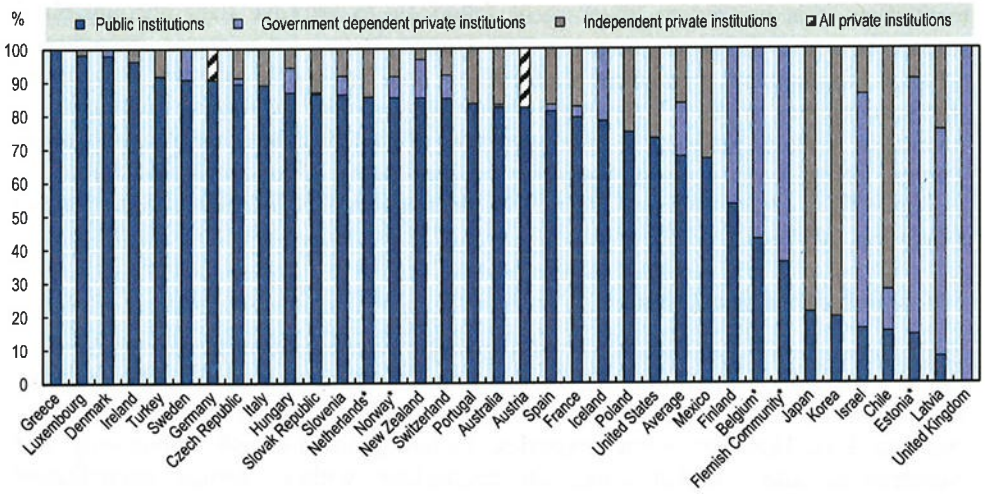
In practice, government-dependent private institutions often comply with the same regulations as public institutions, given that receipt of public funding can be conditional on adhering to these regulations. In the United Kingdom, for instance, all higher education institutions, including universities and colleges, are private, but the majority

receive funding from the government and are therefore "government-dependent" and subject to regulations.

Higher education remains predominantly public in most OECD countries. As shown in Figure 2.2, the majority of higher education students in 2016 were enrolled in public institutions in most OECD countries, or, in the case of countries such as Estonia[6] and the United Kingdom, in government-dependent private institutions. In a small number of countries, independent private institutions make up a relatively large proportion of the overall system; they accounted for around 80% of student enrolments in Japan and Korea, 70% in Chile, 30% in Mexico and 25% in the United States in 2016.

In the Netherlands and Norway, approximately 85% of higher education students were enrolled in public institutions in 2016. More than three-quarters of students in Estonia[6] and close to two-thirds in the Flemish Community were enrolled in government-dependent private institutions. In all participating jurisdictions, the proportion of students enrolled in independent private institutions was below 15%.

Figure 2.2. Share of all higher education enrolments by type of institution (2016)



Note: * Participating in the Benchmarking Higher Education System Performance exercise 2017/2018.
Source: Adapted from OECD (2018[18]), *OECD Education Statistics*, http://dx.doi.org/10.1787/edu-data-en; data provided by the Flemish Ministry of Education and Training.

StatLink https://doi.org/10.1787/888933940436

The vast majority of private higher education institutions are non-profit, meaning that any financial gains from their activities cannot be distributed to the owners of the institution, and they do not pay tax on their income. However, there is an increasingly important for-profit sector in some OECD countries.

It has been argued that for-profit institutions are more responsive to student needs, particularly those of non-traditional learners, as they need to be self-sufficient and able to respond to market demand (Bennett, Lucchesi and Vedder, 2010[30]). In the United States, they tend to enrol more minority, disadvantaged, and older students than community colleges and other public and private non-profit institutions. In addition, in comparison to community colleges (which are primarily public), for-profit institutions perform better in

terms of retention rates for students in their first year and completion rates in short-cycle tertiary education programmes at the certificate and associate in arts levels (Deming, Goldin and Katz, 2012[31]).

However, there are concerns about the quality of education provided by for-profit institutions, as they may be more motivated by the financial bottom line rather than education outcomes (Bennett, Lucchesi and Vedder, 2010[30]; The Institute for Higher Education Policy, 2012[32]). Students from for-profit institutions in the United States, for instance, have poorer employment outcomes than comparable students from other higher education institutions, making it difficult for them to repay their student loans. As a result, they are more likely to default on their student loans. Students from for-profit institutions also report lower satisfaction with their courses and are less likely to consider their education and loans worth the price-tag relative to similarly situated students who attended public and private non-profit institutions (Deming, Goldin and Katz, 2012[31]).

These concerns are exacerbated when government-funded student financial assistance is a key source of revenue of for-profit institutions. This has been found to drive aggressive and, at some times, fraudulent recruitment practices in some institutions in the United States (Public Agenda, 2014[33]). Coupled with concerns about quality in for-profit institutions, this has led to government initiatives to improve their accountability for student outcomes in some countries. The United States, for instance, introduced new Gainful Employment regulations designed to hold for-profit colleges accountable for student outcomes in 2014. These regulations tied eligibility for federal funding to student success in terms of programme-level measures of student debt and earnings (Cellini and Turner, 2018[34]). As a result, the share of enrolments in for-profit institutions, which increased from 4% in 1995 to 11% in 2010, decreased to 7% in 2016 (U.S. Department of Education, 2017[35]).

Recognition of institutions

Higher education institutions have varying levels of recognition by governments which can determine how they operate. In many countries, including Estonia and Norway, higher education institutions need to achieve formal accreditation in order to operate (Section 2.3). However, some countries, including the Flemish Community and the Netherlands, allow higher education institutions without formal accreditation or registration to operate within their jurisdictions. These institutions may be restricted in the qualifications they can award or in their access to government funding.

In **the Flemish Community**, only registered higher education institutions are entitled to award bachelor's and master's degrees. Statutory registered institutions (public or government-dependent private) were recognised by the government prior to the 2004 reforms in higher education and are listed in the Higher Education Register (*Hogeronderwijsregister*). These institutions receive public funding for their education and research activities. Independent private higher education institutions can undergo a formal registration process to be registered by the government. The registration procedures include proof of financial solvency and the establishment of co-operation agreements with recognised institutions to guarantee students can continue their studies if the institution ceases to operate (e.g. in the case of bankruptcy). Other higher education institutions can operate under the constitutional principle of freedom of education; however, their qualifications cannot be called bachelor's or master's degrees.

Public universities and professional HEIs in **the Netherlands** are listed in the Higher Education and Research Act 1993 and receive public funding to support their activities.

Private higher education institutions in the Netherlands do not receive public funds, but may be recognised by the Minister of Education, Culture and Science as a legal entity providing higher education (*rechtspersoon voor hoger onderwijs*) if they undergo a special institutional procedure and their programmes are accredited by the Netherlands-Flanders Accreditation Organisation (NVAO). These institutions are permitted to offer bachelor's and master's programmes, and their accredited programmes are legally recognised. The qualifications awarded are equivalent to those awarded by public institutions. Private institutions that do not undergo these processes are not recognised by the government and operate outside of government regulations. They can apply for programme accreditation through the NVAO if certain conditions are met. Private higher education institutions are not permitted to call themselves universities.

Vertical differentiation

Higher education institutions can also differ in terms of the quality and reputation of individual institutions and likely graduate outcomes (Teichler, 2008[36]), leading to a vertical stratification of the system.

As discussed in Chapter 1, higher education participation is no longer reserved for the elite, with some OECD countries now having a participation rate of more than 50%. But high levels of participation and increased numbers of institutions do not preclude the concentration of top researchers and students in high-status institutions and programmes, even in very egalitarian societies (Marginson, 2016[20]). This tier of institutions exists in many countries and is often comprised of the older and more established institutions, such as the *Grandes Écoles* in France, the SKY universities in Korea (Seoul National University, Korea University, and Yonsei University), the Russell Group in the United Kingdom and the Ivy League in the United States.

Vertical differentiation can also exist within institutions. For example, university colleges in the Netherlands (often called Honours Colleges) are part of a university, but differ from the rest of the institution in many aspects. They are selective and focused on developing talented students, with classes delivered in small groups. These students follow a broad liberal arts and sciences curriculum in their first year before selecting their major in their second year. Students must pay an additional fee on top of the regular tuition fee to attend, and in some cases, need to live in dedicated on-campus resident halls.

Vertically differentiated systems are more likely to generate hierarchical differences in labour market outcomes (including types of occupations, employment rates and wages) (Leuze, 2011[37]). Elite institutions and programmes provide students with an identifiable social advantage (Marginson, 2016[20]) and students with highly educated parents are more likely to enrol in higher-status institutions and programmes, which can increase their advantages in the labour market. Vertically differentiated higher education systems, therefore, can play a role in increasing the correlation between students' socio-economic status and labour market outcomes (Triventi, 2013[38]).

The vertical differentiation between higher education institutions no longer exists only nationally. The advent of the global ranking industry and the competition to attract both funding and international students means many institutions now measure their outputs on a global scale, and aim to achieve "world-class" status. A number of countries have explicit policies in place to create "world-class universities," as certified by their ranking in various global university rankings, such as the Academic Ranking of World Universities (ARWU) (Shanghai Jiao Tong University, China), the QS World University

Rankings (Quacquarelli Symonds, UK) and THE World University Rankings (Times Higher Education, UK). This can result in additional funding and support for top-ranking institutions to help them build their research capacity and attract global talent.

Project 911 (1995) and Project 985 (1998) in China, for example, are both aimed at producing "world-class" universities and improving China's international competitiveness. The initial nine universities selected through the project are known as the C9 League. 39 universities have subsequently received additional financial support from Project 985 to strengthen their performance and promote the growth and reputation of China's higher education system. The significant injection of funds to these institutions has led to an increase in the output of academic papers, many of which are considered to be influential and of high quality, and improve the performance of Chinese universities in global rankings (Yang and Liu, 2018[39]). The Double First-Class strategy introduced in 2015 also aims to expand the number of highly ranked Chinese universities by 2050. 43 universities have qualified for additional support to become "world-class," and another 95 institutions have been selected to develop "world-class" programmes (Peters and Besley, 2018[40]).

Similarly, in Japan, the Top Global University Project was launched in 2014 to provide financial support to universities that are leading the internationalisation of education in Japan. 37 universities have been recognised as global universities. Type A (Top Type) universities are those which are considered to have the potential to be included in the top 100 in world university rankings. Type B (Global Traction Type) universities are recognised as innovative institutions that can lead the internationalisation of Japanese society (Japanese Ministry of Education, Culture, Sports, Science and Technology, 2018[41]).

Competition between institutions can also be a means to promote excellence, especially in research, and has led to the creation of Research Excellence Initiatives in many countries, to identify and promote excellence among institutions (OECD, 2014[42]). For example, in Germany, the Excellence Initiative was introduced in 2005 to encourage excellence in research and doctoral training and enhance the profile and attractiveness of German universities. The Excellence Initiative has three lines of funding. The first line funds graduate schools that provide high-quality doctoral training and stimulating research environments. The second line funds clusters of excellence, which are internationally visible and competitive priority research areas at universities and their non-university partner institutions. The third line finances the institutional strategies of only a small number of universities. In its first phase from 2005-2012, the Excellence Initiative provided funding for 39 graduate schools, 37 clusters of excellence and 9 institutional strategies. In the second phase from 2012-2017, 45 graduate schools, 43 clusters of excellence and 11 institutional strategies received financial support (OECD, 2014[42]).

On the other hand, the trend towards increasing competition between institutions can increase vertical differentiation and possibly decrease horizontal differentiation. The additional financial support for Project 985 universities, for instance, has created a widening gap between the selected universities and other higher education institutions (Zong and Zhang, 2017[43]). It is also argued that the German Excellence Initiative has reduced variety within the German university landscape (Flink et al., 2012[44]). In addition, these policies can drive an even greater emphasis on research over teaching, as most global rankings tend to focus heavily on research performance (Hazelkorn and Gibson, 2018[45]).

As a response to global university rankings, which focus on a narrow range of measures and provide simplified league tables, there have been a number of efforts to provide a broader view of the relative strengths of institutions. For example, U-Multirank is a multidimensional ranking covering various aspects of higher education functions, e.g. education, research and engagement. It ranks higher education institutions into five different performance groups, and is an independent ranking developed with seed funding from the European Commission's Erasmus+ programme (U-Multirank, 2018[46]).

2.2.3. Access to and pathways within higher education

As discussed in Chapter 1, access to higher education has significantly broadened across the OECD in recent decades, reflecting government policy and investment, and a preceding period of universalisation of secondary education. Many countries have reformed their system structures to promote greater access to higher education, including opening up access to students from different types of secondary education, and developing mechanisms for non-traditional entry.

Admission to higher education

Access to higher education is generally based on an upper secondary education qualification. Applicants may also be awarded entrance scores or points based on their performance in upper secondary schools that are used for higher education admissions processes. Some countries stream secondary school students into academic or vocational pathways, which may determine whether they are able to enter higher education, and the types of higher education institutions and programmes they can enter (diagrams of the education systems in the participating jurisdictions are available in Annex 2B).

However, the level of autonomy institutions have in selecting students for admission to higher education can vary across countries. In some, institutions have the power to set admission criteria (as in Estonia); in others, the admissions criteria is either co-regulated between institutions and an external authority (as in the Netherlands and Norway); or it is entirely regulated by an external authority (as in the Flemish Community) (European University Association, 2018[47]).

In **Estonia**, all individuals with upper secondary education are eligible to apply for all types of first-degree programmes (i.e. bachelor's programmes, professional higher education programmes or programmes based on integrated curricula of bachelor's and master's studies) under the Universities Act 1995 and the Institutions of Professional Higher Education Act 1998. Completion of upper secondary education is certified by an upper secondary school leaving certificate or a certificate of vocational secondary education. However, higher education institutions may introduce further admission requirements, such as entrance examinations, minimum scores on the national examinations, and interviews.

In **the Flemish Community**, a secondary school leaving certificate (a diploma of secondary education) gives individuals access to all types of short-cycle and bachelor's programmes. Individuals are able to achieve this qualification by completing either two years of the third stage of general, arts and technical secondary education or three years of the third stage of vocational secondary education. Access to short-cycle programmes is also granted if applicants hold either a certificate of the second year of the third stage of vocational secondary education or a certificate of a programme of secondary adult education, which had at least 900 teaching periods.

In **the Netherlands**, the Higher Education and Research Act 1993 outlines the different entry requirements for universities and professional HEIs, which are based on completion of one of three different strands of upper secondary education:

- Graduates from the "pre-university education" (VWO) strand (three years) can directly access all types of higher education institutions.
- Graduates from the other senior general secondary education (HAVO) strand (two years) can only access professional HEIs. However, in some cases, they can access university programmes after one year spent in professional HEIs.
- Graduates from vocational upper secondary education (two or three years) do not generally have direct access to higher education. However, they can access higher education after completing some additional years of upper secondary education or post-secondary non-tertiary education (depending on which programmes they have followed).

In **Norway**, admission to bachelor's programmes is regulated through the Universities and University Colleges Act 2005 and national regulations, with higher education institutions formally responsible for admission. Applicants must have a minimum level of achievement in six key academic subjects (English, history, mathematics, natural science, Norwegian and social studies), in addition to achieving the general matriculation standard to access higher education by:

- completing three years of general upper secondary education
- completing three or four years of vocational upper secondary education and training (three years of schooling or two years of schooling and two years of apprenticeship training, which leads to a craft or journeyman's certificate), followed by an additional year with the six key academic subjects.

For many programmes, additional requirements apply, e.g. specific subjects or results from upper secondary education.

In some countries, including the Flemish Community, the Netherlands and Norway, alternative ways of access to higher education are available for individuals who may not meet the usual admissions requirements. In the Flemish Community and the Netherlands, students without an upper secondary degree can be admitted through admissions tests (in the Netherlands, this applies only to students who are at least 21 years old). In the Netherlands, students can also be admitted based on the evaluation of a piece of research. In Norway, individuals over 23 years old and without an upper secondary qualification can access higher education by documenting five years of education and/or work experience and demonstrating basic proficiency in the six key academic subjects.

The recognition of prior learning (RPL), i.e. the recognition of non-formal and informal learning, also provides alternative ways to access higher education. In the Flemish Community and Norway, individuals may access higher education on the basis of RPL. In the Netherlands, individuals apply for RPL in order to fast-track their attainment of upper secondary education qualifications. In Estonia, prior learning can be recognised; however, higher education institutions are not able to admit students solely on the basis of RPL.

Selectivity in admission systems

The level of openness or selectivity in admission to higher education differs across countries, institutions, programmes and levels of study. Where government regulations on

admissions exist, they tend to focus on short-cycle and bachelor's level programmes and institutions are more likely to have greater autonomy in admissions to master's and doctorate level programmes.

Around half of the countries and economies with available information on admissions processes to public institutions have at least some institutions with open admission systems (Table 2.5). Open admissions systems provide all applicants with the required qualification level (usually an upper secondary school qualification) and automatic right of access to higher education. This is the case for admissions to short-cycle and bachelor's programmes in the Flemish Community and the Netherlands. Open admission also exists in half of all jurisdictions with government-dependent private institutions and nearly half of those with independent private institutions.

In Norway, admission to first-degree programmes (bachelor's and integrated master's) is open, but based on a point scale within quotas. This system was introduced to address imbalances in higher education and society at large (in terms of age, gender, culture and region). Half of all student places are reserved for those 21 years of age or younger. These "youth quota" applicants are ranked solely on the courses they completed in upper secondary education and their grades. Applicants in the other half of the admission quota, known as the "ordinary quota," can obtain extra admission points based on their age, past education experience and military service. Some applicants within the ordinary quota may re-sit exams to improve their upper secondary school results, thereby improving their chances of admission to their preferred study programme. Norwegian institutions that offer popular programmes can therefore be selective, as demand exceeds the number of places available. In these instances, the highest ranking applicants are offered a place in their preferred institution. By contrast, institutions must accept all eligible applicants in low-demand programmes where there are fewer applicants than places.

Other countries allow institutions to set the admissions criteria and be more selective. In these countries, applicants are usually assessed on the basis of their performance in upper secondary school, and applicants may also be required to have successfully completed pre-requisite subjects at that level. Institutions may also use interviews, portfolios, entrance exams and other mechanisms to assess the suitability of applicants for admission to programmes, as is the case in Estonia.

Even in open admission systems, there are often additional conditions required for entry to specific programmes, and limits on the number of places offered by institutions. The number of places available in medicine, for instance, is controlled in many countries as these are closely linked with national restrictions around medical practitioners. Places in some programmes may be limited due to high demand. In the Netherlands, for instance, the number of places is limited for medicine, veterinary medicine, dentistry, journalism and physiotherapy programmes. Applicants for these programmes are selected through a weighted draw (*loting*), in which a higher average mark in the final school examination gives applicants a higher chance of gaining a place. In addition, some programmes, such as university colleges and art programmes, are selective by nature. Similarly, in Norway, admission to engineering and medicine programmes requires the completion of specific upper secondary courses such as advanced courses in mathematics and sciences.

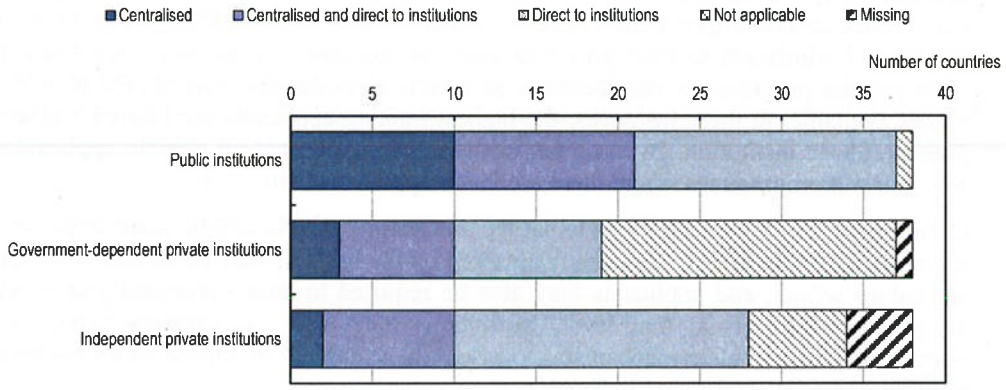
Management of applications

The management of applications to enter higher education also varies across countries. Institutions manage direct applications with full autonomy and responsibility in some countries. In others, students submit applications through a centralised government

agency, which applies admissions criteria. A third approach used in some jurisdictions entails the use of centralised bodies which act as clearinghouses to manage applications for institutions that make the decisions on criteria, procedures and applications. Centralised application systems to manage entry to programmes are seen as a way to ensure a uniform standard across the jurisdiction (Hoareau McGrath et al., 2014[48]). Some countries use a combination of management practices, depending on the level of study and programme.

In 2017, students applied to public institutions through a centralised system in around one-quarter of countries with available information, while they applied directly to institutions in nearly half of the countries (Figure 2.3). Another quarter of countries combined a centralised application system with a direct application system. In private institutions, a centralised system is less common; students applied directly to institutions in nearly one-half of the countries with government-dependent private institutions and in most countries with independent private institutions. However, a centralised application system was combined with a direct application system in one-third of countries with private institutions.

Figure 2.3. Application systems for first-degree programmes (2017)



Note: First-degree programmes include i) ISCED level 6 programmes that do not require prior completion of another level 6 programme for entry and ii) ISCED level 7 programmes that do not require prior completion of a level 6 programme for entry.
Source: OECD (2017[49]), *Education at a Glance 2017*, https://doi.org/10.1787/eag-2017-en.

StatLink https://doi.org/10.1787/888933940455

In Estonia, students apply to higher education institutions through the Admission Information System (*Sisseastumise Infosüsteem*, SAIS), and institutions assess the applications against their own criteria. In the Netherlands, all students must apply for study programmes through *Studielink*; applications are assessed centrally to establish eligibility for open admissions programmes. In programmes with a fixed number of places, such as medicine, applicants receive a ranking via *Studielink* if the number of applications exceeds the places available. The ranking is determined by institutions based on their selection criteria. Most applications in Norway are processed through the Norwegian Universities and Colleges Admission Service, with some exceptions (e.g. programmes in performing arts where admission is based on tests, and programmes offered by some independent private institutions). The Norwegian Universities and

Colleges Admission Service registers all applications, assesses eligibility and assigns admission points based on criteria laid down in a national regulation on admission to higher education, which is revised annually, before the applications are forwarded for final processing at the institution ranked as first priority by the applicant. Students apply directly to institutions in the Flemish Community (Table 2.5).

Table 2.5. Admission and application systems for first-degree programmes (2017)

	Existence of open admission system			Management of applications		
	Public institutions	Government-dependent private institutions	Independent private institutions	Public institutions	Government-dependent private institutions	Independent private institutions
Australia	No	No	No	Centralised and direct to institutions	Centralised and direct to institutions	Centralised and direct to institutions
Austria	Yes	No	No	Direct to institutions	Direct to institutions	Direct to institutions
Canada	Yes	Yes	m	Centralised and direct to institutions	Centralised and direct to institutions	Centralised and direct to institutions
Chile	No	No	Yes	Centralised	Centralised	Centralised and direct to institutions
Czech Republic	No	No	No	Direct to institutions	Direct to institutions	Direct to institutions
Denmark	Yes	a	a	Centralised	a	a
Estonia	No	No	No	Centralised	Centralised	Centralised and direct to institutions
Finland	No	No	a	Centralised	Centralised	a
France	Yes	Yes	m	Centralised and direct to institutions	Centralised and direct to institutions	Direct to institutions
Germany	Yes	Yes	m	Centralised and direct to institutions	Direct to institutions	Direct to institutions
Greece	No	a	a	Centralised	a	a
Hungary	No	No	No	Centralised	Centralised and direct to institutions	Centralised
Iceland	Yes	Yes	a	Direct to institutions	Direct to institutions	a
Israel	No	No	Yes	Direct to institutions	Direct to institutions	Direct to institutions
Italy	Yes	a	Yes	Centralised and direct to institutions	a	Centralised and direct to institutions
Japan	No	a	No	Direct to institutions	a	Direct to institutions
Korea	No	a	No	Centralised and direct to institutions	a	Centralised and direct to institutions
Latvia	a	a	a	Centralised and direct to institutions	a	Centralised and direct to institutions
Luxembourg	Yes	a	Yes	Direct to institutions	a	Direct to institutions

	Existence of open admission system			Management of applications		
	Public institutions	Government-dependent private institutions	Independent private institutions	Public institutions	Government-dependent private institutions	Independent private institutions
Netherlands	Yes	a	m	Centralised	a	m
New Zealand	Yes	Yes	Yes	Direct to institutions	Direct to institutions	Direct to institutions
Norway	Yes	Yes	Yes	Centralised and direct to institutions	Centralised and direct to institutions	Direct to institutions
Poland	No	a	Yes	Direct to institutions	a	Direct to institutions
Portugal	No	a	No	Centralised and direct to institutions	a	Direct to institutions
Slovak Republic	Yes	m	Yes	Direct to institutions	a	Direct to institutions
Slovenia	No	No	No	Centralised	Centralised and direct to institutions	Direct to institutions
Spain	No	a	Yes	Direct to institutions	a	Direct to institutions
Sweden	No	No	a	Centralised	Centralised	a
Switzerland	Yes	Yes	Yes	Direct to institutions	Direct to institutions	Direct to institutions
Turkey	No	a	No	Centralised	a	Centralised
United Kingdom	a	Yes	m	A	Centralised and direct to institutions	m
United States	Yes	a	Yes	Direct to institutions	a	Direct to institutions
Flemish com. (Belgium)	Yes	Yes	m	Direct to institutions	Direct to institutions	m
French com. (Belgium)	Yes	Yes	a	Direct to institutions	Direct to institutions	a

Note: First-degree programmes include i) ISCED level 6 programmes that do not require prior completion of another level 6 programme for entry and ii) ISCED level 7 programmes that do not require prior completion of a level 6 programme for entry. Open admissions systems allow all applicants with the required qualification level an automatic right of access to higher education.
a: Data are not applicable because the category does not apply; m: Data are not available
Estonia: Data are provided by the Estonian Ministry of Education and Research.
United Kingdom: Information relates to the four separate systems across the United Kingdom. In each case, "yes" indicates the policy is in place in at least one of the four countries.
Source: OECD (2017[49]), *Education at a Glance 2017*, https://doi.org/10.1787/eag-2017-en.

Different application processes may be used for different levels of study. For example, in the Netherlands, application processes are centralised for short-cycle tertiary education and bachelor's programmes, while they are decentralised for master's and doctoral programmes (i.e. students apply directly to institutions).

Pathways within higher education

Flexible pathways within higher education enable students to move easily between levels of study, programmes and institutions. This can be important in facilitating lifelong learning and enabling students to change programmes or institutions if they realise their first choice was not suitable.

Short-cycle programmes can help create more flexible learning pathways into and within higher education, bringing students who did not follow a traditional pathway into higher education (Adelman, 2009[50]; Slantcheva-Durst, 2010[51]). Pathways from short-cycle tertiary education programmes to bachelor's programmes have been developed in many jurisdictions, including the Flemish Community and the Netherlands.

- **The Flemish Community**: Short-cycle programmes (associate degree programmes) have been delivered by institutions responsible for adult vocational training ("centres for adult education") since their introduction in 2009. However, from 2019 onwards, these programmes will be delivered by professional HEIs. These programmes have been created as an entry point to a bachelor's programme with a professional orientation, and professional HEIs will have to provide pathways from a short-cycle to a relevant bachelor's programme.
- **The Netherlands**: Students who complete a short-cycle programme (associate degree) at a professional HEI can decide to continue for another two years (in case of full-time study) within the sub-sector to obtain a bachelor's degree.

In general, applicants are required to complete a bachelor's programme for entry to a master's programme. However, as higher education institutions tend to be responsible for admissions to master's programmes, the transition from bachelor's to master's programmes differs among programmes. The completion of a bachelor's degree in the same field of study may be required for entry to a master's programme. For instance, in Norway, most master's programmes require a certain number of credits in the same field of study. Holders of a bachelor's degree in a different field of study, therefore, may need to meet extra requirements, such as exams or additional courses.

In some countries, the type of higher education institutions may influence pathways from bachelor's to master's programmes. For example, in the Flemish Community and the Netherlands, graduates from universities can directly access a master's programme in all types of institutions, with some exceptions. However, graduates from professional HEIs are often required to complete a bridging programme before they are able to enter a master's programme at universities. The bridging programmes take between six months (30 ECTS) to one year (60 ECTS) to complete in the Netherlands, and between three-quarters to one year and a half in the Flemish Community (45 to 90 ECTS). These credits are not counted towards a master's qualification.

Higher education institutions tend to be responsible for admissions to doctoral programmes and the transition to doctoral programmes differs among countries and institutions (see Chapter 6).

2.3. Governance of higher education systems

The governance of higher education encompasses the structures, relationships and processes through which, at both national and institutional levels, policies and practices for higher education are developed, implemented and reviewed. It comprises a complex web of the legislative framework; the characteristics of the institutions and how they relate to the whole system; how money is allocated to institutions and how they are accountable for the way it is spent; as well as less formal structures and relationships that steer and influence behaviour (OECD, 2003[52]; OECD, 2008[53]).

Across higher education systems, authority is distributed between the state power, institutional autonomy, and market forces (Clark, 1983[19]), and there are differing relationships between higher education institutions and government, business and communities, as well as internal stakeholder groups. The three mechanisms for governance – state, institutional and market – tend to be present in all higher education systems, though their respective influence varies across jurisdictions.

2.3.1. State governance

The state has long been one of the principal constituent elements of higher education governance. The state develops, implements and evaluates public policies to govern higher education, using a range of policy levers. These can be categorised under four key types of levers: regulation, funding, information and organisation (Hood and Margetts, 2007[54]; Howlett, 2011[55]; van Vught and de Boer, 2015[56]).

- Regulatory policy levers involve laws and regulations, quality assurance processes and standards. Through these mechanisms, governments can set requirements that have legal force. For example, they can establish threshold levels of quality and performance on programmes and institutions; exercise controls on admissions and enrolments; and require higher education institutions to undertake certain actions.
- Financial policy levers include a range of different mechanisms to direct public funds to higher education institutions, e.g. block grants, targeted funding (i.e. money for a particular purpose) and line-item budgets. The typical procedures used to allocate these subsidies include funding formulas, competitive approaches, reference to historical trends, and negotiations between government authorities and institutions. Public funding can also encourage social partners to participate more actively in higher education (i.e. through grants or tax incentives).
- Information policy levers involve the collection, dissemination and communication of information by authorities on different aspects of higher education that may be of interest to relevant stakeholders. For example, information about labour market opportunities and outcomes can encourage students to select programmes that will lead to better outcomes. Governments can fund initiatives to promote certain fields of study that are short of labour supply, or collect and share data related to graduates' career progression. Governments also generally collect and publish statistical data on the higher education system and either administer or fund surveys on graduate outcomes, the student experience, and so on.

- Governments also have a range of organisational policy levers at their disposal, involving the resources of governments themselves through their ministries, agencies (e.g. quality assurance agencies), quasi-autonomous non-government organisations, public enterprises and partnerships. Some organisational levers are procedural in nature; they shape how policy makers steer the policy process. Others are substantive in nature, where governments act as the direct provider of goods and services.

State governance of higher education has evolved as higher education systems have become larger and more diverse, and institutions have been granted greater autonomy. This has led to the increasing use of incentive structures, rather than regulatory requirements to shape the behaviours of actors in the higher education system towards national policy goals. At the same time, providing greater operational autonomy has been closely associated with a requirement for stronger external assessment of higher education institutions and demands for increased accountability (OECD, 2003[52]; Austin and Jones, 2018[57]).

Quality assurance of higher education

Quality assurance is one of the key mechanisms used to steer higher education and ensure the quality of education and research activities. The purposes of quality assurance include accountability, improvement, monitoring and transparency.

Quality can be monitored externally and internally at a system, institutional, department or programme level. Indicators of quality of education and research can be input, outcome and process focused. They can also be quantitative or qualitative (Krcal, Glass and Tremblay, 2014[58]). Quality assurance activities therefore take different forms, including developing generic guidance, internal processes of self-reviews and external reviews. Three overarching approaches to quality assurance are: accreditation, quality assessment and quality audit (Table 2.6) (OECD, 2008[53]).

- **Accreditation** is an assessment by an external agency on whether an institution or programme meets pre-determined minimum quality standards (Skolnik, 2010[59]). The accreditation is, in other words, the establishment of the status, legitimacy or appropriateness of an institution or programme (or even a module) of study. The criteria used for accreditation can be input, outcome, process or combination of these (Harvey, 2004[60]). In general, accreditation output is a pass/fail decision; it may also be known as registration, licensure or authorisation.
- **Quality assessment** is the process of evaluating the quality of outputs, resulting in a grade, whether numeric (e.g. a percentage or a shorter scale such as 1 to 4), literal (e.g. A to F) or descriptive (e.g. excellent, good, satisfactory and unsatisfactory). There may be a pass/fail boundary along the grade spectrum (Krcal, Glass and Tremblay, 2014[58]).
- **Quality audit** involves an external check on whether procedures are in place to assure quality of an institution and programme and whether explicit and implicit claims of an institution are correct (Woodhouse, 1999[61]; OECD, 2008[53]). It often focuses on processes by which institutions exercise their responsibility to assure academic standards and improve the quality of their provision (Dill, 2000[62]).

Accreditation approaches can serve accountability objectives because of the external locus of control, the graded judgements they produce and the possibility they enable to set

a pass mark reflecting minimum quality standards to be met. The quality audit approach, on the other hand, is more compatible with improvement-driven objectives because of their emphasis on processes rather than outcomes and their greater internal locus of control. The quality assessment approach lies between these two approaches, with graded judgements and an emphasis on outcomes suitable for quality signalling in an accountability perspective, while simultaneously leaving scope for improvement recommendations (OECD, 2008[53]).

Table 2.6. Quality assurance approaches

Approach	Question	Focus	Objective
Accreditation	Does an institution or programme meet quality standards?	Comprehensive	Accountability
Quality assessment	How good are the outcomes of an institution or programme?	Outputs	Accountability, improvement
Quality audit	Is there a system to ensure quality? Are claims of an institution correct?	Processes	Improvement

Source: Adapted from Woodhouse (1999[61]), *Quality and Internationalisation in Higher Education*, https://doi.org/10.1787/9789264173361-en; OECD (2008[53]), *Tertiary Education for the Knowledge Society: Volume 1 and Volume 2*, https://dx.doi.org/10.1787/9789264046535-en.

Some form of quality assurance is mandatory in most of the OECD countries. In some countries, a negative evaluation may result in the closure of an institution or the suspension of a programme. The results of quality evaluation may also have an impact on funding (OECD, 2008[53]).

External quality assurance can be administered either directly through government agencies, such as the ministry or department responsible for higher education, or through intermediate agencies. In countries such as the United States, it is conducted by private, non-profit organisations established for this specific purpose (Eaton, 2015[63]).

All participating jurisdictions have established an independent, government-funded quality assurance agency responsible for external quality assurance activities.

- **Estonia**: the Estonian Quality Agency for Higher and Vocational Education (*Eesti Kõrg- ja Kutsehariduse Kvaliteediagentuur*, EKKA)
- **The Flemish Community and the Netherlands**: the Accreditation Organisation of the Netherlands and Flanders (*Nederlands-Vlaamse Accreditatieorganisatie*, NVAO)
- **Norway**: the Norwegian Agency for Quality Assurance in Education (*Nasjonalt organ for kvalitet i utdanninga*, NOKUT).

As the participating jurisdictions are members of the European Higher Education Area (EHEA), their quality assurance agencies comply with the *Standards and Guidelines for Quality Assurance in the European Higher Education Area* (ESG) (European Association for Quality Assurance in Higher Education; European Students' Union; European University Association; European Association of Institutions in Higher Education, 2015[64]), a condition which must be met to be registered on the European Quality Assurance Register (EQAR). In accordance with the criteria set in the ESG, these agencies are all independent from other parties, including higher education institutions, governments and other stakeholder organisations, in order to ensure that procedures and

decisions are solely based on expertise. In order to ensure their continued compliance with the ESG, agencies are required to undergo an external review carried out by a panel mostly composed of external experts, including a student member, at least once every five years (European Association for Quality Assurance in Higher Education; European Students' Union; European University Association; European Association of Institutions in Higher Education, 2015[64]).

Nonetheless, the primary responsibility for quality assurance rests with the institutions through their internal quality assurance processes (European Association for Quality Assurance in Higher Education; European Students' Union; European University Association; European Association of Institutions in Higher Education, 2015[64]). Internal quality assurance makes use of available information on the experiences of students and staff in the higher education programmes offered by the institutions, and on students' study progress and outcomes after graduation (see Chapter 5 for the information on students' experience and study outcomes). The views of different stakeholders (students, staff and representatives of the labour market) are taken into account. The internal quality assurance process therefore provides input for the external quality assurance process.

Quality assurance of institutions

Institutional quality assurance is an external quality review process used to assess higher education institutions and ensure that they meet acceptable levels of quality. A key mechanism for the quality assurance of institutions is accreditation (alternatively known as registration, licensure or authorisation). In systems where institutional accreditation is compulsory, it may control an institution's entry to, and continued operations within, a higher education system. In systems where it is voluntary, it may be a mark of quality to assure students, employers and other stakeholders that institutions meet certain educational standards. Even where it is voluntary, failure to be accredited may nonetheless affect an institution's access to public funding. It may also affect students' ability to transfer between institutions, as some institutions may only accept students who have credits or qualifications awarded by accredited institutions.

A small number of countries use a system of self-accreditation, whereby institutions that meet a high level of quality or specific criteria through the quality assurance processes are authorised to establish study programmes and self-accredit their courses. This may entail ensuring programmes meet national standards and gaining approval for programmes through academic boards or similar bodies. As a result, they are not required to seek external accreditation of their programmes (The Quality Assurance Agency for Higher Education, 2015[65]; Chen and Hou, 2016[66]). This system of self-accreditation operates in a number of countries, including Australia, Hong Kong, Malaysia, Norway and the United Kingdom.

All participating jurisdictions have some form of institutional quality assurance in place, which differs in duration, as well as to whether it is compulsory or voluntary (Table 2.7).

In **Estonia**, all higher education institutions need to be accredited at least once every seven years. This period may be reduced to three years if the review panel identifies issues regarding the management, administration, research, or learning environment of the institution. This provides the institution with the opportunity to address the issues within the timeframe. This period may be reduced further to two years if the issues are more serious. If these issues are not resolved, the Minister of Education and Research may submit a proposal to the government of the Republic of Estonia to withdraw the rights of an institution to provide instruction and to issue academic degrees and diplomas.

Institutional review will be introduced in **the Flemish Community** in 2019. Under a current pilot scheme, universities and professional HEIs must undergo a periodic assessment of quality through an institutional review. A positive evaluation is valid for six years. If institutions receive a negative evaluation, they must apply for programme accreditation. Under the new institutional review system, universities and professional HEIs that meet all standard requirements will not need to have their existing programmes accredited by the NVAO, and will be self-accrediting. However, all new programmes will need to be accredited by the NVAO. The institutional review is available only for universities and professional HEIs. Other institutions will need to apply for the programme accreditation.

In **the Netherlands**, higher education institutions may ask the NVAO to conduct an institutional audit, which assesses their capacity to ensure the quality improvement of their programmes. Institutions that receive a positive evaluation are eligible for more streamlined programme accreditation processes. Under the current system, a positive evaluation from the institutional audit is valid for six years, but this will change to an indefinite duration from 2019. Institutions that receive a negative evaluation are required to undergo the standard programme accreditation process.

In **Norway**, all higher education institutions must be accredited by NOKUT at either the institutional or programme level to ensure they have an adequate internal quality assurance system in place. All must additionally undergo periodic audits. This system was introduced as part of reforms to the degree structure and autonomy of institutions on 1 January 2003, replacing the previous "recognition' and 'authorisation" system (Schwarz and Westerheijden, 2004[67]).

To be accredited at the institutional level, higher education institutions must demonstrate that their internal quality assurance system complies with national standards. Accreditation is valid until explicitly revoked by NOKUT following an assessment indicating that the institution does not meet the requirements of the Academic Supervision Regulations or the Regulations of Quality Assurance in Higher Education. In addition, all higher education institutions must undergo institutional audit at least once every six years to assess whether their quality assurance practices are satisfactory.

Existing public higher education institutions were automatically granted accredited institution status when the accreditation system was introduced in 2003. New public and private higher education institutions can apply for institutional accreditation, which grants institutions (public and private) the right to self-accreditation of their study programmes. However, the level of programmes they are able to self-accredit depends on the type of institution. Accredited universities have self-accrediting status for all programmes in all fields and at all levels, including doctoral programmes. Accredited specialised university institutions and university colleges can deliver new bachelor's programmes without a programme review. They are also able to accredit new programmes at all levels within their field of specialisation where they have a doctorate programme, meaning that they can offer new master's programmes in that area. Accredited institutions can also apply for institutional accreditation at a higher level; e.g. university colleges can apply for accreditation as a university or specialised university institution.

Table 2.7. Institutional quality assurance processes in participating jurisdictions (2018)

	Estonia	The Flemish Community	The Netherlands	Norway	
Approach	Accreditation	Assessment (until 2018) Audit (from 2019)	Audit	Accreditation	Audit
Compulsory/ voluntary	Compulsory for all institutions	Compulsory for universities and professional HEIs	Voluntary	Voluntary N.B: Either institutional or programme accreditation is compulsory for all higher education institutions	Compulsory for all institutions
Duration	Institutions need to be accredited at least once every seven years (two-three years if conditions not met)	Positive evaluation is valid for six years	Positive evaluation is valid for six years (from 2019, indefinitely)	Valid until revoked following a negative assessment in the audit or reaccreditation procedure	Institutions need to be audited at least once every six years
Self-accrediting status	Yes (within a study programme group the institution has right to provide instruction)	No (until 2018) Yes (from 2019, for existing programmes)	No	Yes Universities: all programmes Other HEIs: bachelor's programmes	N/A

Quality assurance of programmes

Assuring the quality of programmes entails an assessment against threshold standards, which cover a range of functions and processes such as learning and teaching, research and research training, institutional quality assurance, governance, accountability and information.

All higher education programmes in the Flemish Community and the Netherlands must be assessed through quality assurance agencies. In Estonia, programme accreditation and assessment are required at the level of study programme groups (i.e. groups of programmes focusing on the same academic discipline). In Norway, programme accreditation depends on the self-accrediting status of institutions (Table 2.8).

- **Estonia**: programme accreditation is undertaken at the level of study programme groups, granting the right to provide instruction in all programmes in a group. In addition, all study programme groups must be assessed every seven years.
- **The Flemish Community**: All programmes must be accredited once every six years. From 2019, accredited institutions will not need to obtain programme accreditation for their existing programmes.
- **The Netherlands**: All programmes must be accredited once every six years (streamlined or standard depending on the outcomes of the institutional audit).

- **Norway**: Institutions without institutional accreditation must apply to NOKUT for all new programmes. Accredited universities have self-accrediting status for all new programmes, including doctoral programmes. Accredited specialised university institutions and university colleges can provide new bachelor's programmes without programme review. They are also able to accredit new programmes at all levels within their field of specialisation where they have a doctorate programme, meaning that they can offer new master's programmes in that area. All institutions are required to be audited at least every six years. During the audit, an internal accreditation system is reviewed.

Table 2.8. Quality assurance of programmes in participating jurisdictions (2018)

	Estonia		The Flemish Community	The Netherlands	Norway
Approach	Accreditation	Assessment	Accreditation	Accreditation	Accreditation
Requirements for accredited institutions	Programmes in new study programme groups	All study programme groups	All programmes (from 2019, new programmes)	All programmes (streamlined)	Requirements differ depending on type of institution
Requirements for non-accredited institutions	Programmes in new study programme groups	N/A	All programmes	All programmes	New programmes
Duration	Indefinite, unless revoked for specific reasons outlined in legislation	Every seven years	Every six years (until 2018)	Every six years	N/A

Institutions can face serious consequences if the result of their programme accreditation application is negative. In the Flemish Community, institutions must terminate programmes if they receive a negative evaluation in two subsequent programme accreditation processes (programmes that receive a negative review in the first process can ask for a re-evaluation after one to three years). Similarly, in Norway, institutions may lose the right to deliver programmes if they receive a negative evaluation. Programmes that fail to gain accreditation in the Netherlands are not eligible for public funding (i.e. institutions do not receive public funds to support these programmes, and students who enrol in these programmes are not entitled to financial assistance).

Supranational governance

The alignment of national initiatives at the intergovernmental level has also become an increasingly important consideration for many countries when developing national policy. With the creation of supranational organisations, regional integration has been encouraged in different parts of the world. In this context, regional integration in the field of higher education has also been promoted.

For example, in Europe, the European Union (including its predecessors) has been actively involved in the process of European integration. European integration was initially limited to economic integration; therefore, only vocational training was under the

scope of discussion. At that time, education was regarded as a matter of each individual nation based on the principle of subsidiarity. Although the principle of subsidiarity still applies, from around the 1970s, member countries began acknowledging the economic importance of education, particularly higher education, and in 1973, a special division for education and youth was created in the Directorate-General for Research and Science (DG XII) (European Commission, 2006[68]).

The EU's mobility programmes have helped to establish greater regional integration in the field of higher education. Joint Study Programmes were introduced in 1976 and were succeeded by the Erasmus programme in 1987. The development of mobility programmes highlighted the need for comparable and compatible higher education systems (Papatsiba, 2006[69]).

The Bologna Process (Box 2.1) was the second turning point for European countries in relation to higher education governance at a supranational level. As mentioned in Section 2.2.3, the Bologna Process aimed at increasing cross-national comparability in European higher education systems. To help students circulate freely across the EU, the European Credit Transfer System (ECTS) was established within the Erasmus programme in 1989. The ECTS is now a key component of the Bologna Process and has been adopted by most countries in the European Higher Education Area (EHEA), including the participating jurisdictions (European Union, 2015[70]). Following the development of the EHEA qualifications framework, countries in the EHEA have adopted the three-cycle structure.

Regions outside of Europe have also sought to create similar mechanisms using the Bologna Process as a model for higher education integration (Vögtle and Martens, 2014[71]). For example, there have been discussions about the establishment of an African Higher Education and Research Space (AHERS), a Space for Higher Education in Latin America and the Caribbean (ENLACES), and a Common Space of Higher Education in Southeast Asia. In the Asia-Pacific region, the Brisbane Communiqué was presented in 2006, in which governments agreed to collaborate in some areas, such as quality assurance frameworks.

2.3.2. Institutional governance

Internal governance arrangements within higher education institutions can include processes to determine their values, mission and purposes, their systems of decision-making and resource allocation, and their patterns of authority and hierarchy. Decision-making bodies may comprise staff (academic and other staff), students and external representatives (such as employers).

In some countries, a higher education institution is an independent legal entity, whereas in others it is a state agency (Box 2.3). However, increasingly, higher education institutions are autonomous and have the freedom to manage their own affairs without government interference. Institutional autonomy has been introduced, along with accountability mechanisms, to ensure that higher education remains of high quality and relevant to students and other stakeholders. As a result, supervisory or advisory bodies have been created, which play an increasingly important role in strategic planning, budget allocation and in recruiting and overseeing the work of university leaders. Employer participation in governance boards is also becoming a more common practice across systems, either on a voluntary basis or as a result of requirements by state authorities.

Box 2.3. Legal status of higher education institutions

Higher education institutions can be considered as either a state agency or an independent legal entity.

- State agencies: Higher education institutions are treated in the same way as other government agencies, abiding by public service regulations and financed through the public budget. Employees are often regarded as civil servants (OECD, 2008[53]). According to the UOE classification, state agency institutions are defined as public (UOE, 2018[29]).
- Independent legal entities: Having independent legal status means that the institution is legally responsible for its own functioning (OECD, 2008[53]). There are various forms of independent legal status, such as foundations and corporations. Higher education institutions with independent legal status are regarded as private (either government-dependent private or government-independent private) (UOE, 2018[29]).

Granting independent legal status to higher education institutions is a way of providing greater autonomy to institutions.

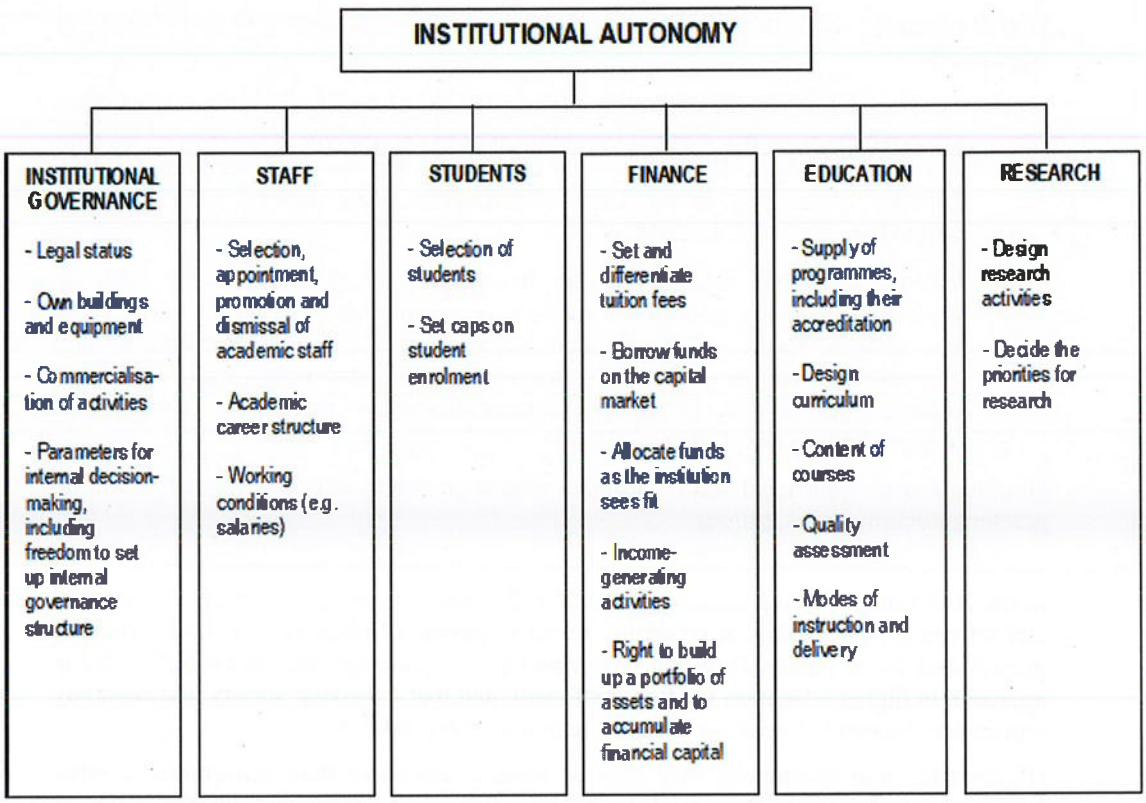
In the 20th century, governments in most OECD countries exercised considerable control and influence over the higher education sector in pursuit of objectives such as economic growth and social equity. However, governments today accept that the central planning approach to higher education is often inefficient, and that a thriving society and economy require institutions to operate with some degree of independence.

Higher education institutions may also be more autonomous than institutions at other levels of education, as they tend to be less financially dependent on the state. In comparison to other education sectors, higher education receives the largest proportion of funds from private sources, such as households and private enterprises – around 30% on average for OECD countries (see Chapter 3).

Higher education institutions are therefore becoming increasingly free to manage their own affairs without interference from the state. Higher education institutions in OECD countries have few restrictions on the internal allocation of funds from block grants; and many can borrow money, keep surpluses, own their buildings and set tuition fees. The levels of staffing, academic and organisational autonomy has also been increasing. Higher education institutions are often free to set the procedures for recruitment and promotion of staff, establish salary scales, decide on the number of students to admit, set admission procedures, create and terminate programmes, design content, choose the language of instruction, and broadly define their governance, management and academic structures and statutes. However, the levels of autonomy differ across countries and between subsectors of higher education, and even between institutions in the same country.

Increased autonomy allows institutions to manage their resources more freely and to quickly respond to the demands of a rapidly changing world. Figure 2.4 provides an overview of the different aspects of institutional autonomy.

Figure 2.4. Aspects of institutional autonomy



Source: OECD (2008[53]) *Tertiary Education for the Knowledge Society: Volume 1 and Volume 2*, https://dx.doi.org/10.1787/9789264046535-en.

The European University Association (EUA) has developed the University Autonomy Tool to determine the extent to which universities are able to make their own decisions. The tool compares and ranks the autonomy of universities in 29 European higher education systems, focusing on four areas: organisational, financial, staffing and academic.

Table 2.9 shows the results for the four participating jurisdictions. A score of 100% indicates full institutional autonomy and a score of 0% shows that institutions have no control over an issue (i.e. controlled by governments and external authorities or legally regulated). The data show that Estonian universities enjoyed the highest degree of autonomy among the four participating jurisdictions in 2016. Estonia had the highest score among 29 European jurisdictions in terms of staffing and academic autonomy.

Table 2.9. University autonomy in the participating jurisdictions (2016) (%)

		Estonia	The Flemish Community	The Netherlands	Norway
Organisational	Selection procedure for the executive head	100	100	0	100
	Selection criteria for the executive head	75	50	100	100
	Dismissal of the executive head	100	100	100	80
	Term of office of the executive head	0	0	100	0
	External members in university governing bodies	100	43	29	57
	Capacity to decide on academic structures	100	100	100	100
	Capacity to create legal entities	100	100	100	100
Financial	Length of public funding cycle	60	60	60	60
	Type of public funding	100	100	100	100
	Ability to borrow money	100	100	100	0
	Ability to keep surplus	100	90	100	80
	Ability to own buildings	100	100	100	80
	Tuition fees for national/EU students at bachelor level	0	0	0	0
	Tuition fees for national/EU students at master's level	0	0	0	0
	Tuition fees for national/EU students at doctoral level	0	0	100	0
	Tuition fees for non-EU students at bachelor level	100	100	100	0
	Tuition fees for non-EU students at master's level	100	100	100	0
	Tuition fees for non-EU students at doctoral level	100	100	100	0
Staffing	Recruitment procedures for senior academic staff	100	100	100	100
	Recruitment procedures for senior administrative staff	100	100	100	100
	Salaries for senior academic staff	100	42	67	58
	Salaries for senior administrative staff	100	42	67	67
	Dismissal of senior academic staff	100	60	20	0
	Dismissal of senior administrative staff	100	60	20	0
	Promotion procedures for senior academic staff	100	100	100	71
	Promotion procedures for senior administrative staff	100	100	100	100
Academic	Overall student numbers	100	0	0	80
	Admissions procedures at bachelor level	100	0	40	60
	Admissions procedures at master's level	100	60	60	100
	Introduction of programmes at bachelor level	80	0	40	100
	Introduction of programmes at master's level	80	0	40	100
	Introduction of programmes at doctoral level	80	60	100	100
	Termination of degree programmes	100	100	100	100
	Language of instruction at bachelor level	100	83	100	100
	Language of instruction at master's level	100	83	100	100
	Selection of quality assurance mechanisms	100	0	0	100
	Selection of quality assurance providers	100	0	0	0
	Capacity to design content of degree programmes	100	100	100	100

Source: European University Association (2018[47]), *University Autonomy in Europe*, www.university-autonomy.eu/.

In the participating jurisdictions, both universities and professional HEIs have similar levels of autonomy with some exceptions (see Chapters 3 and 4).

Compared to public higher education institutions, private higher education institutions, particularly independent private institutions, tend to enjoy higher degrees of autonomy. For example, in the Netherlands, private institutions have higher degrees of financial autonomy (e.g. they are free to set their tuition fees by themselves), and in Norway, they enjoy higher levels of staffing autonomy (e.g. staff working at public institutions are regarded as civil servants).

Accountability

As mentioned, increased autonomy tends to be accompanied by increased accountability. Institutions are increasingly required to demonstrate value for money and show that they have undertaken responsible and relevant activities with public funds.

Accountability can be ensured through various means, including quality assurance frameworks, performance-related funding, market mechanisms and participation of external stakeholders in governing bodies (where external representatives would advise and support the institution regarding its contribution to society, and information on institutional results would be provided to the public) (Hénard and Mitterle, 2010[72]).

Table 2.10 provides examples of policy levers used in participating countries to ensure accountability. These are currently common in many higher education systems, though the emphasis placed on the different types of levers varies from country to country.

Table 2.10. Examples of policy instruments to ensure accountability in higher education

Policy lever	Accountability framework
Regulation	Accreditation of institutions or programmes in order to receive public funding
	Internal quality assurance systems
	Financial accountability mechanisms and use of legal financial audits
	Performance agreements (without funding)
	Annual letters of appropriation and feedback to institutions
	Mandatory appointment of special advisory boards as part of institutional governance structure
Funding	Formula funding
	Performance-based funding
	Performance agreements (with funding)
	Targeted allocations and grants
Information	Educational statistics and aggregated indicators made available by the government for students and other higher education stakeholders
	Annual public reports with performance data on higher education institutions
Organisation	Independent quality assurance agencies
	Establishment of an Inspectorate for Education with a "meta-evaluation" role

2.3.3. Market governance

Market-based mechanisms have become important elements of higher education policy, particularly in systems that engage in market relationships. In these environments, higher education institutions are able to compete for students, staff, research income, etc. Students (as consumers) are given the freedom to choose a provider and product, and providers are given the freedom to enter the market, choose the products to deliver and set their price. Price can influence choice and adequate information on price and quality is a key factor in systems with market-type mechanisms.

These have been reflected particularly in funding reforms (e.g. introduction of performance-based funding and performance contracts), and also in attempts to make provision more demand-driven and tailored to a wider audience, including students, employers and the broader society.

Tensions arising from government regulations and market-based forces have placed some higher education systems in a context of quasi-markets, where elements of autonomy, competition and user-driven processes co-exist with government involvement, particularly in regulatory and financial matters.

In addition, higher education institutions face tension between their role in providing public value and their need to sustain institutional performance in a growing market. As the importance of international university rankings has grown, competition between and within institutions has intensified (Hazelkorn, 2015[73]), increasing the pressure to act in the interests of the institution rather than the common good. Moreover, competitive grant processes and performance-based research funding favour the orientation of research towards the topics which are likely to yield immediate outcomes, rather than primarily prioritising academic or public interests.

The differences between how governments and the most influential rankings measure performance show how national priorities and the objectives of international institutional rankings diverge.

Table 2.11 shows the extent of differences in performance measures used by the three main international rankings and governments, using the performance agreement indicators of the four participating jurisdictions for the purposes of the illustration.

Institutions relate their position in rankings directly with their ability to attract funding from non-government sources, including student tuition fees, endowments or research funding. As shown in the table, institutions must adhere to a different set of performance-related targets to attract funding from government sources. A key objective for governance of higher education is awareness of the tensions created at the institutional level by competing priorities and to reconcile the national social and economic priorities with the objectives of individual institutions (OECD, 2008[53]).

Reconciling this tension is important for both research and education; most basic research is performed in universities and in public research organisations. Public support for such research remains crucial, as it is essential for the development of new scientific and technological knowledge that can lead to innovation to benefit the economy and society (OECD, 2010[74]). But this type of research does not always lead to the types of outputs that are valued in institutional rankings, and often does not lead directly to innovation and knowledge transfer.

Governments can work to influence the relevance of the higher education system by defining systemic objectives and employing a variety of policy instruments to influence alignment of institutions with these objectives. The quality of the planning process and the means by which objectives and incentives are set directly impact higher education relevance.

Table 2.11. Tensions between performance targets for higher education institutions

Performance indicators	Academic Ranking of World Universities (ARWU) (% weight)	QS World University Rankings (% weight)	THE World University Rankings (% weight)	Government-defined funding-related indicators (jurisdictions)
Input and activity-oriented				
Staff-student ratio	No	Yes (20%)	Yes (4.5%)	No
Enrolments from particular student categories	No	No	No	Yes (the Flemish Community)
Credits	No	No	No	Yes (the Flemish Community and Norway)
International staff		Yes (5%)	Yes (2.5%)	
International students	No	Yes (5%)	Yes (2.5%)	Yes (Estonia and Norway)
Doctorate to bachelors ratio	No	No	Yes (2.5%)	No
Institutional income	No	No	Yes (2.5%)	Yes (Estonia)
Research income	No	No	Yes (6%)	Yes (Estonia)
International collaboration		No	Yes (2.5%)	Yes (Norway)
International funding	No	No	No	Yes (Estonia, the Flemish Community and Norway)
Co-financing of research	No	No	Yes (2.5%)	Yes (all)
Gender diversity	No	No	No	Yes (the Flemish Community)
Output-oriented				
Degrees	No	No	No	Yes (the Flemish Community, the Netherlands and Norway)
Completion rates	No	No	No	Yes (Estonia)
Papers published in *Nature* and *Science*	Yes (20%)	No	No	No
Doctoral degrees to academic staff ratio	No	No	Yes (6%)	No
Publications per faculty member	No	No	Yes (6%)	No
Number of publications	Yes (20%)	No	No	Yes (Estonia, the Flemish Community and Norway)
Citations per faculty	No	Yes (20%)	No	No
Number of citations	No	No	Yes (30%)	Yes (the Flemish Community)
Highly cited researchers in subject	Yes (20%)	No	No	No
Alumni with Nobel prizes and Fields medals	Yes (10%)	No	No	No
Staff with Nobel prizes and Fields medals	Yes (20%)	No	No	No
Patents or spinoffs	No	No	No	Yes (Estonia and the Flemish Community)
Outcome-oriented				
Academic reputation survey	No	Yes (40%)	Yes (Teaching 15% and Research 18%)	No
Employer reputation survey	No	Yes (10%)	No	No
Graduates in employment	No	No	No	Yes (Estonia)
National research evaluation results	No	No	No	Yes (Estonia and the Netherlands)
Weighted average of other indicators per faculty	Yes (10%)	No	No	No

Source: Quacquarelli Symonds Limited (2018[75]), *QS World University Rankings*, www.topuniversities.com/qs-world-university-rankings; ShanghaiRanking Consultancy (2018[76]), *ARWU World University Rankings*, www.shanghairanking.com/index.html; Times Higher Education (2018[77]), *World University Rankings*, www.timeshighereducation.com/world-university-rankings.

2.4. Higher education policy directions

Although higher education systems in OECD countries differ in size and structure, some common policy challenges exist. In 2004, the OECD conducted a comprehensive international review of higher education in collaboration with 24 countries, resulting in the synthesis report *Tertiary Education for the Knowledge Society* (OECD, 2008[53]). The report proposed a number of policy options to help meet challenges across the many facets of higher education policy: governance, funding, quality assurance, equity, research and innovation, academic career, labour market relevance and internationalisation (Table 2.12).

Table 2.12. Higher education policy directions recommended by OECD (2008)

Policy objective	Main policy directions
Steering higher education: setting the right course	Develop a coherent strategic vision for higher education and communicate it clearly and effectively
	Establish instruments for a balance between institutional autonomy and public accountability
	Ensure the coherence of the higher education system with extensive diversification
	Build links between secondary and higher education systems, between different types of higher education institutions and with surrounding regions and communities
	Strengthen the ability of institutions to align with the national higher education strategy
	Build consensus over higher education policy within governments and with other stakeholders
Matching funding strategies with national priorities	Develop a funding strategy that facilitates the contribution of the higher education system to society and the economy
	Use cost-sharing between the State and students as the principle to shape the funding of higher education
	Publicly subsidise higher programmes in relation to the benefits they bring to society
	Make institutional funding for instruction formula-driven, related to both input and output indicators and including strategically targeted components
	Improve cost-effectiveness
	Back the overall funding approach with a comprehensive student support system
Assuring and improving quality	Design a quality assurance framework consistent with the goals of higher education
	Develop a strong quality culture in the system and put stress on internal quality assurance mechanisms
	Commit external quality assurance to an advisory role as the system gains maturity, but retain strong external components in certain contexts
	Align quality assurance processes to the particular profile of HEIs
	Avoid fragmentation of the quality assurance organisational structure
Achieving equity	Assess extent and origin of equity issues through systematic collection of data
	Strengthen the integration of planning between secondary and higher education systems
	Consider positive discrimination policies for particular groups whose educational disadvantage is identified
	Provide incentives for higher education institutions to widen participation and provide extra support for students from disadvantaged backgrounds
Enhancing the role of higher education in research and innovation	Improve knowledge diffusion rather than strengthening commercialisation via stronger IPRs
	Improve and widen channels of interaction and encourage inter-institutional collaboration
	Use the higher education sector to foster the internationalisation of R&D
	Broaden the criteria used in research assessments
	Ensure the shift towards project-based funding is monitored and provide a mix of funding mechanisms
Academic career: adapting to change	Give institutions ample autonomy over the management of human resources
	Reconcile academic freedom with institutions' contributions to society
	Improve the entrance conditions of young academics
	Develop mechanisms to support the work of academics
Strengthening ties with the labour market	Co-ordinate labour market and education policies
	Improve data and analysis about graduate labour market outcomes
	Strengthen career services at secondary and higher educational levels
	Enhance provision with a labour market orientation
	Include labour market perspectives and actors in policy development and institutional governance

Policy objective	Main policy directions
Shaping internationalisation strategies in the national context	Develop a national strategy and comprehensive policy framework for internationalisation
	Improve national policy coordination
	Encourage HEIs to become proactive actors of internationalisation
	Create structures to promote the national higher education system
	Develop on-campus internationalisation
Implementing higher education policy	Establish ad-hoc independent committees to initiate higher education reforms and engage stakeholders
	Allow for bottom-up policy initiatives to be developed into proposals by independent committees
	Recognise the different views of stakeholders through iterative policy development
	Favour incremental reforms over comprehensive overhauls, unless there is wide public support for change

Source: OECD (2008[53]) *Tertiary Education for the Knowledge Society: Volume 1 and Volume 2*, https://dx.doi.org/10.1787/9789264046535-en.

2.4.1. Policy directions in the participating jurisdictions

Although higher education is increasingly internationalised, national socio-economic context, challenges and needs are still key drivers of government policy for higher education systems. National contexts can drive policy in differing directions, as can be seen from the higher education and research strategies in the participating jurisdictions.

Table 2.13. Higher education strategic goals in the participating jurisdictions

Country (Strategy Name)	Key goals	Relevant actions
Estonia (Estonian Lifelong Learning Strategy)	A change in the approach to learning	Analysis examining whether the content and volume of studies are concordant with curricular objectives will be conducted.
		Tools assessing learners' development of key competences will be created.
		A programme promoting co-operation among stakeholders to be launched.
		Centres of Competence focusing on the areas of teacher education and educational research to be developed.
	The concordance of lifelong learning opportunities with the needs of the labour market	A system monitoring and forecasting labour market needs to be developed.
		Representatives from the labour market will actively participate in developing curricula and designing the learning processes.
		The development of internship programmes to be further promoted.
		The areas of economic growth identified by the government will be prioritised.
	A digital focus in lifelong learning	Training courses and instructional materials will be available for teaching staff to integrate digital technology into the learning process.
		A system will be created to make digital learning resources accessible to all.
		Learning opportunities for adults to acquire digital competences will be created.
	Equal opportunities and increased participation in lifelong learning	Financing principles will be applied to support equal access to higher education.
		Targeted groups will be offered flexible training courses to develop their key competences. The group includes young mothers, the elderly, those who do not speak Estonian, people without secondary education, the unemployed, the disabled and new immigrants.
		A needs-based loan system to be developed.
The Flemish Community (Policy Paper on Education 2014-2019)	Fully develop talents of all learners	An international experience to be offered to one-third of students by 2020.
		Higher education institutions will use their resources to have vulnerable target groups involved.
	Strengthening educational institutions	The financing system will be more transparent and competitive.
		The system to align with international developments (such as the Bologna Process).
		Administrative burdens on higher education institutions to be reduced (e.g. quality assurance).

Country (Strategy Name)	Key goals	Relevant actions
The Netherlands (Strategic Agenda for Higher Education and Research 2015-2025)	Achieving top quality	The government to increase institutions' responsibility for quality assurance.
	World-class education	Higher education institutions are to recruit additional teaching staff, allowing the provision of more personal and intensive education.
		Extra funds for research on higher education and the introduction of a Comenius grant scheme that stimulates educational innovation (see Chapters 3, 4 and 5).
		All teaching staff need to make their educational material publically available by 2025. Higher education institutions need to be able to accredit massive open online courses (MOOC) provided by other higher education institutions.
	Accessibility, talent development and diversity	Higher education institutions need to invest more in matching and course orientation events for prospective students with the aim of increasing accessibility to higher education.
		The talents and abilities of each student will be carefully considered by tailoring educational content and providing tutoring and mentoring.
		Programmes for talented students will be developed (e.g. honours programmes).
		Finance systems for adult students and part-time students will be developed (e.g. lifelong learning credit).
		Connections between secondary schools, centres of secondary vocational education and higher education institutions will be strengthened. Co-operation between higher education institutions will also be intensified across the subsectors, aiming to provide more flexible study options.
	Social relevance	Sustainable regional collaboration with rich learning environments will be developed by helping teaching staff to strengthen ties with their environment and assisting in the future development of co-operative ventures. The City Deal "*Kennis Maken*" is an example (see Chapter 7).
		Students will be provided full and accurate information about their career prospects in relation to their choice of programme. This includes the development of an active alumni engagement policy and better facilitation of internships and work experience placements.
Norway (Quality Culture in Higher Education, Long-term plan for research and higher education 2019–2028)	Reinforce quality culture	Higher education institutions are required to develop pedagogical merit systems by 2019 to encourage more teaching initiatives and to reward important development work.
		Peer review and peer mentoring of teaching and education to be used more.
		The government will set up a national competitive arena for quality in education by assembling a portfolio of tools in order to encourage knowledge, competence and innovative work in developing education programmes (The first call under this scheme was announced in September 2018).
		The Ministry of Education and Research will set up a quality portal to collect indicators and relevant knowledge sources in one place.
	Further emphasis on quality	Three long-term investment plans include funding on improving quality in higher education.
		In 2019, there will be a new call for centres of excellence in education, and a new call through the competitive arena for quality in higher education.

Source: Estonian Ministry of Education and Research (2014[78]), *The Estonian Lifelong Learning Strategy 2020*, www.hm.ee/sites/default/files/estonian_lifelong_strategy.pdf; Flemish Government (2014[79]), *Beleidsnota Onderwijs 2014-2019 [Policy Paper on Education 2014-2019]*, hwww.vlaanderen.be/publicaties/beleidsnota-2014-2019-onderwijs; Dutch Ministry of Education, Culture and Science (2015[80]), *The Value of Knowledge - Strategic Agenda for Higher Education and Research*, www.government.nl/documents/reports/2015/07/01/the-value-of-knowledge; Norwegian Ministry of Education and Research (2017[81]), *Meld. St. 16. Report to the Storting (White Paper): Quality Culture in Higher Education*, www.regjeringen.no/en/dokumenter/meld.-st.-16-20162017/id2536007/; Norwegian Ministry of Education and Research (2018[82]), *Meld. St. 4. Melding til Stortinget: Langtidsplan for forskning og høyere utdanning 2019–2028 (Report to the Storting (White Paper): Long-term plan for research and higher education 2019–2028)*, www.regjeringen.no/no/dokumenter/meld.-st.-4-20182019/id2614131/.

Many OECD countries, including all four participating jurisdictions, also have specific strategies focused on developing the research and innovation function of higher education (see Chapter 6).

2.5. Concluding remarks

In order to assess the performance of higher education systems, it is essential to understand how systems are organised and governed and their general directions with respect to policy. With that in mind, this chapter reviewed the structure, governance and policy orientation of higher education in OECD countries, with a particular focus on the participating jurisdictions. General performance challenges governments are facing related to the structure and governance of higher education systems can be summarised as follows:

- Over the past few decades, the vertical differentiation (stratification) of higher education has been increased in many systems, while horizontal differentiation (diversity) has tended to decrease. Some governments have decided to concentrate their resources on a few institutions in order to be competitive internationally, contributing to further vertical differentiation. At the same time, the differences between the subsectors have been blurred in some countries, including the participating jurisdictions, decreasing the horizontal differences. Vertical differentiation can encourage higher education institutions to compete with each other and may help improve the quality of their provision. However, smaller and more specialised institutions, which meet specific needs of students, cannot always effectively compete with large comprehensive institutions, which could lead to a loss of institutional diversity in the longer term. In addition, the stratification of higher education institutions may increase the correlation between social origins and labour market outcomes.
- Privatisation of institutions can help increase institutional autonomy. However, the quality issues that have emerged in for-profit sectors in some jurisdictions also indicate the need for continued government efforts to monitor the quality of provision at private institutions (particularly private for-profit institutions).
- Higher education institutions face tension between their role in providing public value and their need to sustain institutional performance in a growing market. Governments face the challenge of maintaining a balance between these dual roles, and of building a system in which all the missions of higher education (education, research and engagement) are well valued.
- It is equally challenging to maintain a balance between equity and quality. For example, open admission systems can provide access opportunities to all students; however, some students may not be ready to commence their study. Conversely, more selective admission systems can ensure students have the ability to succeed, but may hinder efforts to broaden students' access.
- Some forms of quality assurance systems are now well established in many OECD countries, including the participating jurisdictions. However, further insight is needed into the effectiveness and efficiency of quality assurance systems. Evaluating policies appropriately also remains a persistent challenge.

Annex 2.A. Number of higher education institutions and student enrolments

Annex Table 2.A.1. Number of higher education institutions by highest ISCED level provided (2017)

		Estonia	The Flemish Community	The Netherlands	Norway
Public	Doctoral or equivalent	6	3	18	18
	Master's or equivalent	2	5	27	3
	Bachelor's or equivalent	6	1	10	a
Private (government-dependent)	Doctoral or equivalent	0	3	m	2
	Master's or equivalent	0	2	m	9
	Bachelor's or equivalent	1	8	m	3
Private (independent)	Doctoral or equivalent	1	0	m	1
	Master's or equivalent	3	11	m	2
	Bachelor's or equivalent	2	1	m	a
Total		21	34	55	38

Note: a: Data are not applicable because the category does not apply, m: Data are not available
Source: Adapted from information provided by the participating jurisdictions. See the reader's guide for further information.

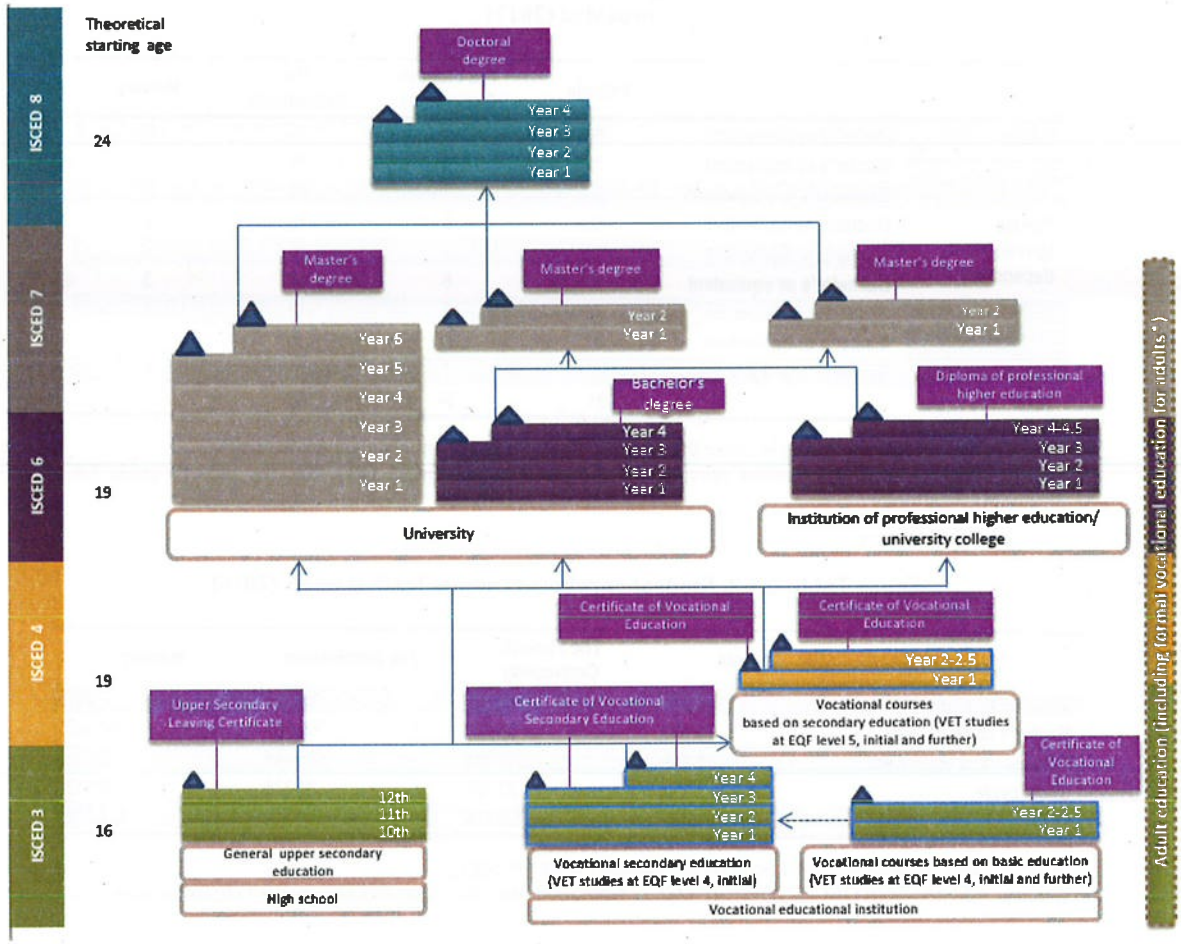
Annex Table 2.A.2. Student enrolments across ISCED levels (2016)

	Estonia	The Flemish Community	The Netherlands	Norway
Doctoral or equivalent	2 833	9 899	15 057	7 787
Master's or equivalent	15 125	54 710	165 567	64 556
Bachelor's or equivalent	33 134	210 358	636 944	196 094
Short-cycle	a	23 499	20 378	9 012
Total	51 092	298 466	836 946	277 449

Note: a: Data are not applicable because the category does not apply
Source: Adapted from OECD (2018[18]), *OECD Education Statistics*, http://dx.doi.org/10.1787/edu-data-en.

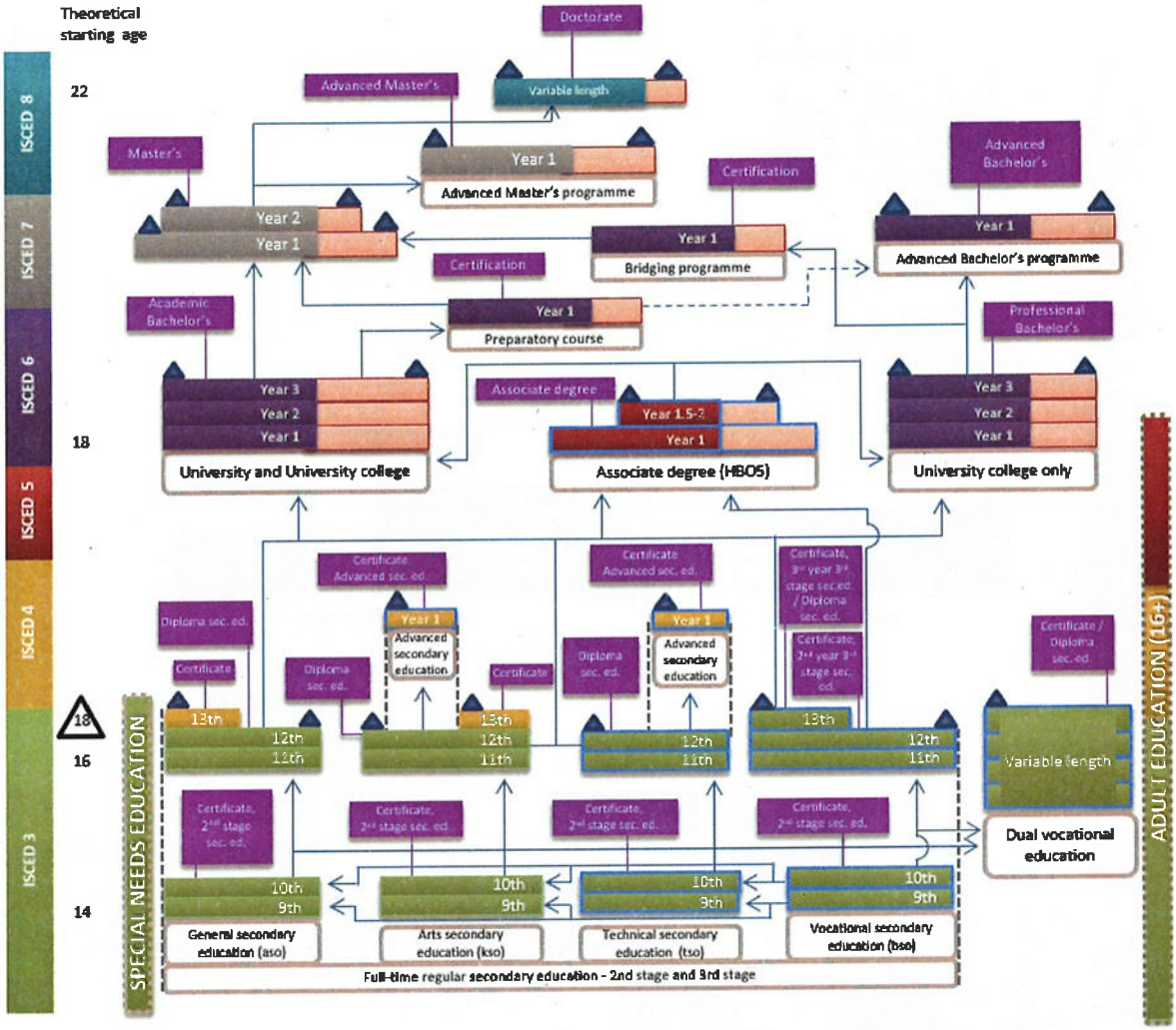
Annex 2.B. Diagrams of the education systems

Annex Figure 2.B.1. Diagram of the education system: Estonia



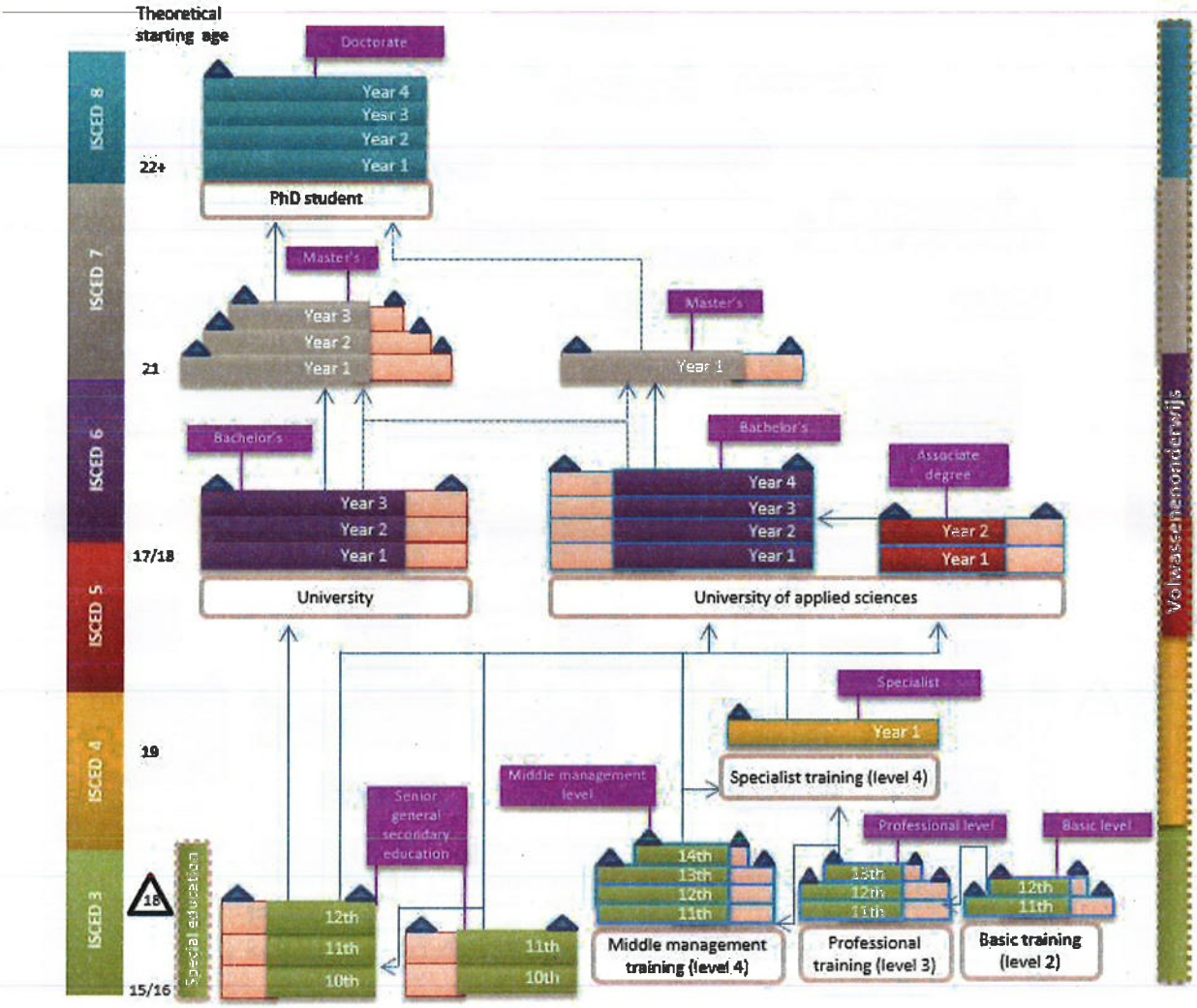
Source: OECD (2018[83]), *Education GPS*, http://gpseducation.oecd.org.

Annex Figure 2.B.2. Diagram of the education system: The Flemish Community of Belgium



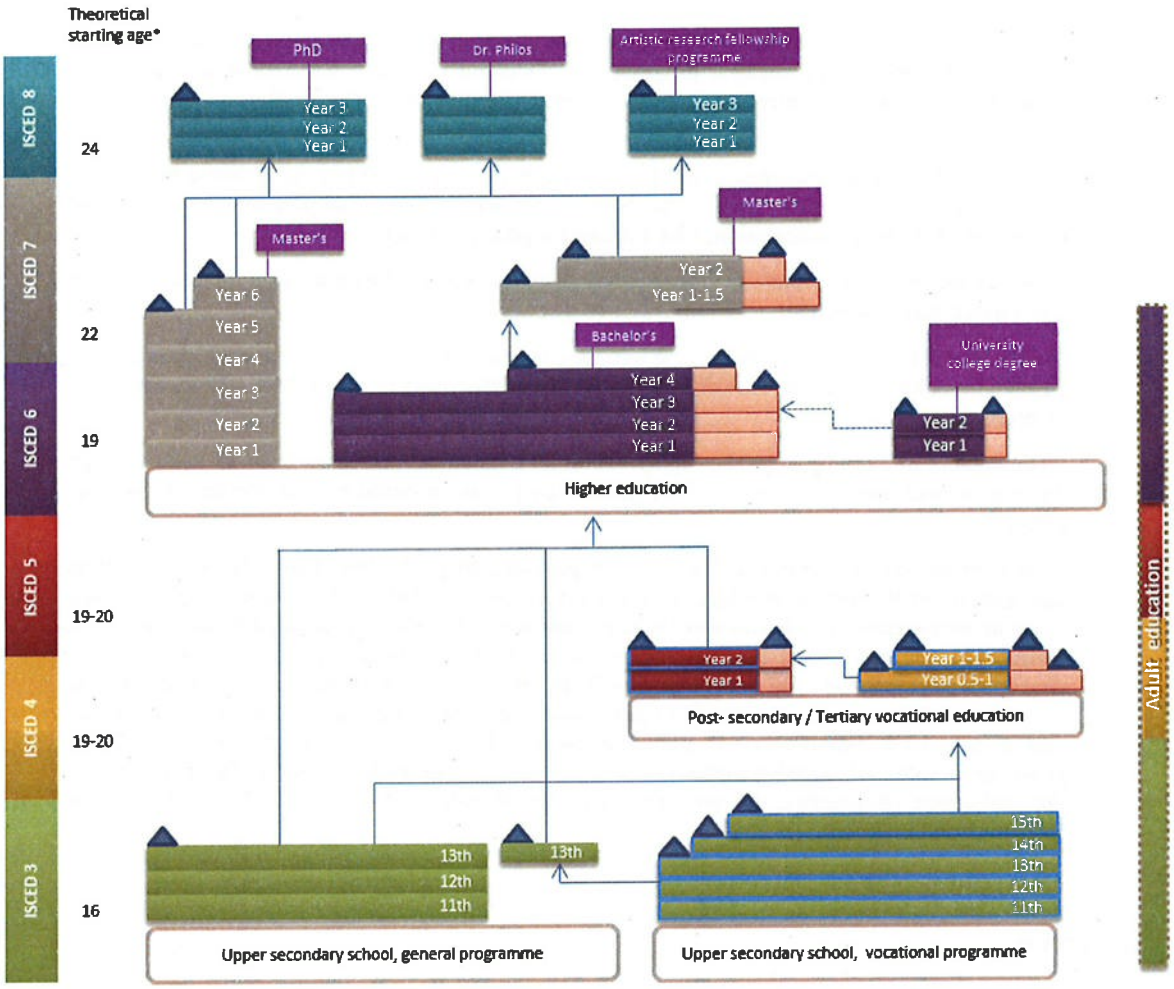
Source: OECD (2018[83]), *Education GPS*, http://gpseducation.oecd.org.

Annex Figure 2.B.3. Diagram of the education system: The Netherlands



Source: OECD (2018[83]), *Education GPS*, http://gpseducation.oecd.org.

Annex Figure 2.B.4. Diagram of the education system: Norway



Note: *Theoretical starting ages refer to the ages as established by law and regulation for the entry to a programme, actual starting ages may vary depending on the programme.
Source: OECD (2018[83]), *Education GPS*, http://gpseducation.oecd.org.

Notes

[1] The Bologna Declaration initially recognised two cycles in higher education: undergraduate and graduate (master's and/or doctoral programmes). Doctoral education was recognised as a third cycle at the Ministerial Conference in Berlin in 2003 (Berlin Communiqué) (Berlin Communiqué, 2003[84]).

[2] While short-cycle programmes in the Flemish Community exist within the Bologna framework (as a part of the first cycle), those in the Netherlands are considered as programmes outside the framework (European Commission, EACEA and Eurydice, 2018[8]).

[3] Specialised institutions include Antwerp Management School, Institute for Tropical Medicine and Vlerick Business School.

[4] In the Flemish Community, short-cycle tertiary education programmes are currently delivered by Centres for Adult Education. However, as of the 2019-2020 academic year, they will be organised by professional HEIs.

[5] The number of Norwegian public higher education institutions decreased from 33 to 21 through the institutional mergers in 2015-17. A number of private institutions also merged during this period.

[6] Estonian universities operate as legal entities governed by public law (Box 2.3). A university is autonomous to the extent provided in the Universities Act 1995. The establishment, merger, division, termination of activities and change of name of a university is decided by the parliament (*Riigikogu*). Currently, most Estonian higher education institutions are registered as government-dependent private in the UOE data collection. They are classified as government-dependent private in order to differentiate their status from state-governed public institutions. However, Estonia may change their UOE classification to public in the near future. Irrespective of legal status (either public or private), all Estonian higher education institutions are under the same regulations set by the parliament (*Riigikogu*), the government of the Republic of Estonia and the Ministry of Education and Research.

References

Adelman, C. (2009), *The Bologna Process for U.S. Eyes: Re-learning Higher Education in the Age of Convergence*, Institute for Higher Education Policy, Washington, DC. [50]

Bennett, D., A. Lucchesi and R. Vedder (2010), *For-Profit Higher Education: Growth, Innovation and Regulation*, Center for College Affordability and Productivity, Washington DC. [30]

Bergen Communiqué (2005), *Communiqué of the Conference of European Ministers Responsible for Higher Education, Bergen, 19-20 May 2005*, http://www.ehea.info/media.ehea.info/file/2005_Bergen/52/0/2005_Bergen_Communique_english_580520.pdf (accessed on 21 November 2018). [7]

Berlin Communiqué (2003), *Communiqué of the Conference of Ministers responsible for Higher Education in Berlin on 19 September 2003*, http://www.ehea.info/media.ehea.info/file/2003_Berlin/28/4/2003_Berlin_Communique_English_577284.pdf (accessed on 21 November 2018). [84]

Birnbaum, R. (1983), *Maintaining Diversity in Higher Education*, Jossey-Bass, San Francisco, https://dx.doi.org/10.2307/2070436. [21]

Bologna Declaration (1999), *Joint declaration of the European Ministers of Education convened in Bologna on 19 June 1999 (Bologna Declaration)*, http://www.ehea.info/media.ehea.info/file/Ministerial_conferences/02/8/1999_Bologna_Declaration_English_553028.pdf (accessed on 24 September 2018). [6]

Cellini, S. and N. Turner (2018), "Gainfully Employed? Assessing the Employment and Earnings of For-Profit College Students Using Administrative Data", National Bureau of Economic Research, Massachusetts, http://www.nber.org/papers/w22287. [34]

Chen, K. and A. Hou (2016), "Adopting self-accreditation in response to the diversity of higher education: quality assurance in Taiwan and its impact on institutions", *Asia Pacific Education Review*, Vol. 17/1, pp. 1-11, http://dx.doi.org/10.1007/s12564-016-9415-z. [66]

Clark, B. (1983), *The Higher Education System: Academic Organization in Cross-national Perspective*, University of California Press, Berkeley, https://dx.doi.org/10.1002/pam.4050030317. [19]

Deming, D., C. Goldin and L. Katz (2012), "The For-Profit Postsecondary School Sector: Nimble Critters or Agile Predators?", *Journal of Economic Perspectives*, Vol. 26/1, pp. 139-164, https://dx.doi.org/10.1257/jep.26.1.139. [31]

Dill, D. (2000), "Designing Academic Audit: Lessons learned in Europe and Asia", *Quality in Higher Education*, Vol. 6/3, pp. 187-207, https://dx.doi.org/10.1080/13538320020005945. [62]

Dutch Ministry of Education, Culture and Science (2015), *The Value of Knowledge - Strategic Agenda for Higher Education and Research*, Dutch Ministry of Education, Culture and Science, The Hague, http://www.government.nl/documents/reports/2015/07/01/the-value-of-knowledge. [80]

Eaton, J. (2015), *An Overview of U.S. Accreditation*, Council for Higher Education Accreditation, Washington DC, https://files.eric.ed.gov/fulltext/ED569225.pdf. [63]

Estonian Ministry of Education and Research (2014), *The Estonian Lifelong Learning Strategy 2020*, Estonian Ministry of Education and Research, Tallinn, http://www.hm.ee/sites/default/files/estonian_lifelong_strategy.pdf. [78]

European Association for Quality Assurance in Higher Education; European Students' Union; European University Association; European Association of Institutions in Higher Education (2015), *Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)*, European Association of Institutions in Higher Education, Brussels, http://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf. [64]

European Centre for the Development of Vocational Training (2010), "The development of national qualifications frameworks in Europe", European Centre for the Development of Vocational Training, Luxembourg, https://dx.doi.org/10.2801/3239. [11]

European Commission (2006), *The history of European cooperation in education and training: Europe in the making - an example*, Publications Office of the European Union, Luxembourg, https://publications.europa.eu/en/publication-detail/-/publication/2686e4f1-7bcf-4c15-bf68-56db0639cbbb. [68]

European Commission, EACEA and Eurydice (2018), *The European Higher Education Area in 2018: Bologna Process Implementation Report*, Publications Office of the European Union, Luxembourg, https://publications.europa.eu/en/publication-detail/-/publication/2fe152b6-5efe-11e8-ab9c-01aa75ed71a1/language-en?WT.mc_id=Selectedpublications&WT.ria_c=677&WT.ria_f=706&WT.ria_ev=search. [8]

European Union (2015), *ECTS Users' Guide*, Publications Office of the European Union, Luxembourg, https://ec.europa.eu/education/ects/users-guide/docs/ects-users-guide_en.pdf. [70]

European University Association (2018), *University Autonomy in Europe*, http://www.university-autonomy.eu/ (accessed on 12 July 2018). [47]

Flemish Government (2014), *Beleidsnota Onderwijs 2014-2019 [Policy Paper on Education 2014-2019]*, Flemish Government, Brussels, http://www.vlaanderen.be/publicaties/beleidsnota-2014-2019-onderwijs. [79]

Flink, T. et al. (2012), *Angleichung statt Vielfalt: Deutsche Universitäten auf der Suche nach Profil*, The WZB Berlin Social Science Center, Berlin, https://www.ssoar.info/ssoar/handle/document/45958. [44]

Guri-Rosenblit, S., H. Šebková and U. Teichler (2007), "Massification and Diversity of Higher Education Systems: Interplay of Complex Dimensions", *Higher Education Policy*, Vol. 20/4, pp. 373-389, http://dx.doi.org/10.1057/palgrave.hep.8300158. [4]

Harman, G. and K. Harman (2003), "Institutional Mergers in Higher Education: Lessons from International Experience", *Tertiary Education and Management*, Vol. 9/1, pp. 29-44, https://dx.doi.org/10.1080/13583883.2003.9967091. [28]

Harvey, L. (2004), "The Power of Accreditation: Views of Academics", in Di Nauta, P. et al. (eds.), *Accreditation Models in Higher Education: Experiences and Perspectives*, European Network for Quality Assurance in Higher Education, Helsinki. [60]

Hazelkorn, Ellen; Coates, Hamish; McCormick, A. (ed.) (2018), *Emerging trends in higher education governance: reflecting on performance, accountability and transparency*, Edward Elgar Publishing, Cheltenham, http://www.e-elgar.com/shop/eep/preview/book/isbn/9781785369759/. [57]

Hazelkorn, E. (2015), *Rankings and the Reshaping of Higher Education: The Battle for World-Class Excellence*, Palgrave Macmillan, Basingstoke, https://dx.doi.org/10.1057/9780230306394. [73]

Hazelkorn, E., H. Coates and A. McCormick (eds.) (2018), *Emerging perspectives on measuring and classifying institutional performance*, Edward Elgar Publishing, Cheltenham. [24]

Hazelkorn, E. and A. Gibson (2018), "The impact and influence of rankings on the quality, performance andaccountability agenda", in Hazelkorn, Ellen; Coates, Hamish; McCormick, A. (ed.), *Research Handbook on Quality, Performance and Accountability in Higher Education*, Edward Elgar Publishing, Cheltenham. [45]

Hénard, F. and A. Mitterle (2010), *Governance and Quality Guidelines in Higher Education: A Review of Governance Arrangements and Quality Assurance Guidelines*, OECD, Paris, http://www.oecd.org/education/imhe/46064461.pdf. [72]

Hoareau McGrath, C. et al. (2014), *Higher Education Entrance Qualifications and Exams in Europe: A Comparison*, European Union, Brussels, http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/529057/IPOL-CULT_ET(2014)529057_EN.pdf. [48]

Hood, C. and H. Margetts (2007), *The Tools of Government in the Digital Age*, Palgrave Macmillan, Basingstoke. [54]

Howlett, M. (2011), *Designing Public Policies: Principles and Instruments*, Routledge, Abingdon. [55]

Jaftha, C. and J. Samuels (2017), *Building trust for better movement across SADC: An update on the SADC Qualifications Framework (SADCQF)*, http://www.dhet.gov.za/SiteAssets/Latest%20News/2018/An%20update%20on%20the%20SADC%20Qualification%20Framework.pdf (accessed on 25 September 2018). [14]

Japanese Ministry of Education, Culture, Sports, Science and Technology (2018), *Top Global University Project*, https://tgu.mext.go.jp/en/about/index.html (accessed on 30 August 2018). [41]

Jongbloed, B., J. Enders and C. Salerno (2008), "Higher education and its communities: Interconnections, interdependencies and a research agenda", *Higher Education*, Vol. 56/3, pp. 303-324, http://dx.doi.org/10.1007/s10734-008-9128-2. [2]

Keevy, J. and B. Chakroun (2015), *Level-setting and recognition of learning outcomes: the use of level descriptors in the twenty-first century*, UNESCO, Paris, https://unesdoc.unesco.org/ark:/48223/pf0000242887. [15]

Keevy, J., B. Chakroun and A. Deij (2010), *Transnational Qualifications Frameworks*, European Training Foundation, Luxembourg, https://dx.doi.org/10.2816/16602. [13]

Krcal, A., A. Glass and K. Tremblay (2014), "Monitoring and enhancing quality in higher education: developing a quality framework", in Glass, A. (ed.), *The State of Higher Education 2014*, OECD, Paris. [58]

Leuze, K. (2011), "How structure signals status: institutional stratification and the transition from higher education to work in Germany and Britain", *Journal of Education and Work*, Vol. 24/5, pp. 449-475, https://dx.doi.org/10.1080/13639080.2011.596524. [37]

Love, P. and J. Stockdale-Otárola (eds.) (2017), *Debate the Issues: Complexity and Policy making*, OECD Insights, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264271531-en. [3]

Marginson, S. (2017), *Horizontal diversity in higher education systems: does the growth of participation enhance or diminish it?*, Centre for Global Higher Education , London, http://www.researchcghe.org/perch/resources/cghe-6-july-2017-diversity.pdf. [22]

Marginson, S. (2016), "The worldwide trend to high participation higher education: dynamics of social stratification in inclusive systems", *Higher Education*, Vol. 72/4, pp. 413-434, https://dx.doi.org/10.1007/s10734-016-0016-x. [20]

Norwegian Ministry of Education and Research (2018), *Meld. St. 4. Melding til Stortinget: Langtidsplan for forskning og høyere utdanning 2019–2028 [Report to the Storting (white paper): Long-term plan for research and higher education 2019–2028]*, http://www.regjeringen.no/no/dokumenter/meld.-st.-4-20182019/id2614131/. [82]

Norwegian Ministry of Education and Research, O. (ed.) (2017), *Meld. St. 16. Report to the Storting (white paper): Quality Culture in Higher Education*, http://www.regjeringen.no/en/dokumenter/meld.-st.-16-20162017/id2536007/. [81]

OECD (2018), *Education GPS*, OECD Publishing, Paris, http://gpseducation.oecd.org (accessed on 15 October 2018). [83]

OECD (2018), *Education Policy in Japan: Building Bridges towards 2030*, Reviews of National Policies for Education, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264302402-en. [25]

OECD (2018), *Education Policy Outlook 2018: Putting Student Learning at the Centre*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264301528-en. [1]

OECD (2018), *Higher Education in Norway: Labour Market Relevance and Outcomes*, Higher Education, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264301757-en. [27]

OECD (2018), *OECD Education Statistics*, https://dx.doi.org/10.1787/edu-data-en. [18]

OECD (2017), *Education at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/eag-2017-en. [49]

OECD (2014), *Promoting Research Excellence: New Approaches to Funding*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264207462-en. [42]

OECD (2010), *Measuring Innovation: A New Perspective*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264059474-en. [74]

OECD (2008), *Tertiary Education for the Knowledge Society: Volume 1 and Volume 2*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264046535-en. [53]

OECD (2003), *Education Policy Analysis 2003*, OECD Publishing, Paris, http://dx.doi.org/10.1787/epa-2003-en. [52]

Papatsiba, V. (2006), "Making higher education more European through student mobility? Revisiting EU initiatives in the context of the Bologna Process", *Comparative Education*, Vol. 42/1, pp. 93-111, http://dx.doi.org/10.1080/03050060500515785. [69]

Paris Communiqué (2018), *EHEA Ministerial Conference, Paris, 2018*, http://www.ehea.info/media.ehea.info/file/2018_Paris/77/1/EHEAParis2018_Communique_final_952771.pdf (accessed on 22 February 2019). [9]

Peters, M. and T. Besley (2018), "China's double first-class university strategy: 双一流", *Educational Philosophy and Theory*, pp. 1-5, https://dx.doi.org/10.1080/00131857.2018.1438822. [40]

Public Agenda (2014), *Profiting Higher Education? - What Students, Alumni and Employers Think About For-Profit Colleges*, Public Agenda, San Francisco, http://www.publicagenda.org/pages/profiting-higher-education (accessed on 21 November 2018). [33]

Quacquarelli Symonds Limited (2018), *QS World University Rankings*, https://www.topuniversities.com/qs-world-university-rankings (accessed on 21 November 2018). [75]

Schwarz, S. and D. Westerheijden (2004), "Accreditation in the Framework of Evaluation Activities: A Comparative Study in the European Higher Education Area", in Schwarz, S. and D. Westerheijden (eds.), *Accreditation and Evaluation in the European Higher Education Area*, Springer Science+Business Media Dordrecht, Dordrecht, https://dx.doi.org/10.1007/978-1-4020-2797-0. [67]

ShanghaiRanking Consultancy (2018), *ARWU World University Rankings*, http://www.shanghairanking.com/index.html (accessed on 21 November 2018). [76]

Skolnik, M. (2010), "Quality assurance in higher education as a political process", *Higher Education Management and Policy*, Vol. 22/1, http://dx.doi.org/10.1787/hemp-22-5kmlh5gs3zr0. [59]

Slantcheva-Durst, S. (2010), "Chapter 1: Redefining Short-Cycle Higher Education Across Europe: The Challenges of Bologna", *Community College Review*, Vol. 38/2, pp. 111-132, https://dx.doi.org/10.1177/0091552110384610. [51]

Teichler, U. (2008), "Diversification? Trends and explanations of the shape and size of higher education", *Higher Education*, Vol. 56/3, pp. 349-379, https://dx.doi.org/10.1007/s10734-008-9122-8. [36]

Teichler, U. (2007), *Higher Education Systems: Conceptual Frameworks, Comparative Perspectives, Empirical Findings*, Sense Publishers, Rotterdam. [23]

The Institute for Higher Education Policy (2012), *A new classification scheme for for-profit institutions*, The Institute for Higher Education Policy, Washington, DC, http://www.ihep.org/sites/default/files/uploads/docs/pubs/report_for-profits_classification_july_2012.pdf. [32]

The Quality Assurance Agency for Higher Education (2015), *Cultures of Quality: An International Perspective - Profiles of Quality Assurance in Higher Education in Nine Countries*, The Quality Assurance Agency for Higher Education, Gloucester, http://www.qaa.ac.uk/docs/qaa/about-us/cultures-of-quality-an-international-perspective-15.pdf?sfvrsn=a0e8fe81_4. [65]

Times Higher Education (2018), *World University Rankings*, https://www.timeshighereducation.com/world-university-rankings (accessed on 21 November 2018). [77]

Triventi, M. (2013), "The role of higher education stratification in the reproduction of social inequality in the labor market", *Research in Social Stratification and Mobility*, Vol. 32, pp. 45-63, https://dx.doi.org/10.1016/J.RSSM.2013.01.003. [38]

Tuck, R. (2007), *An Introductory Guide to National Qualifications Frameworks: Conceptual and Practical Issues for Policy Makers*, International Labour Organization, Geneva, http://www.ilo.org/skills/pubs/WCMS_103623/lang--en/index.htm. [12]

U.S. Department of Education (2017), *Digest of Education Statistics*, https://nces.ed.gov/programs/digest/d17/tables/dt17_303.20.asp (accessed on 17 July 2018). [35]

U-Multirank (2018), *U-Multirank*, http://www.umultirank.org/ (accessed on 20 November 2018). [46]

UNESCO (2018), *Conventions and recommendations in higher education*, https://en.unesco.org/themes/higher-education/recognition-qualifications/conventions-recommendations (accessed on 23 October 2018). [16]

UNESCO (2018), *Global Convention on the Recognition of Higher Education Qualifications Project*, https://en.unesco.org/themes/higher-education/recognition-qualifications/global-convention (accessed on 23 October 2018). [17]

UNESCO Institute for Statistics (2012), *International Standard Classification of Education ISCED 2011*, UNESCO Institute for Statistics, Montreal, http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf. [5]

UOE (2018), *UNESCO-UIS / OECD / EUROSTAT Data Collection on formal education - Manual on concepts, definitions and classifications*, UOE, Montreal, Paris, Luxembourg, http://uis.unesco.org/sites/default/files/documents/uoe2016manual_11072016_0.pdf. [29]

van Vught, F. and H. de Boer (2015), "Governance Models and Policy Instruments", in *The Palgrave International Handbook of Higher Education Policy and Governance*, Palgrave Macmillan, London, https://dx.doi.org/10.1007/978-1-137-45617-5_3. [56]

Vögtle, E. and K. Martens (2014), "The Bologna Process as a template for transnational policy coordination", *Policy Studies*, Vol. 35/3, pp. 246-263, https://dx.doi.org/10.1080/01442872.2013.875147. [71]

Williams, J. (2017), "Collaboration, alliance, and merger among higher education institutions", *OECD Education Working Papers*, No. 160, OECD Publishing, Paris, http://dx.doi.org/10.1787/cf14d4b5-en. [26]

Woodhouse, D. (1999), *Quality and Internationalisation in Higher Education*, OECD, Paris, https://doi.org/10.1787/9789264173361-en. [61]

Working Group on Policy Development for New EHEA Goals 2015-2018 (2017), *Policy Development for New EHEA goals: Final Report of Working Group 3*, http://www.ehea.info/media.ehea.info/file/2018_Paris/72/7/MEN_conf-EHEA_WG3_03_950727.pdf. [10]

Yang, T. and N. Liu (2018), "Rankings and their impact on Chinese higher education", in Hazelkorn, E., H. Coates and A. McCormick (eds.), *Research Handbook on Quality, Performance and Accountability in Higher Education*, Edward Elgar Publishing, Cheltenham. [39]

Zong, X. and W. Zhang (2017), "Establishing world-class universities in China: deploying a quasi-experimental design to evaluate the net effects of Project 985", *Studies in Higher Education*, pp. 1-15, https://dx.doi.org/10.1080/03075079.2017.1368475. [43]

Chapter 3. Financial resources

This chapter provides an overview of how higher education is resourced financially across OECD member countries. It analyses how countries compare in terms of levels of expenditure on higher education, sources of funding, and the allocation of funding throughout the system.

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.

3.1. Introduction

A key aspect of the framework for benchmarking performance entails looking at how well higher education systems can minimise costs and how they can achieve value for the funds invested in education, without compromising on equity and quality (OECD, 2017[1]).

In a climate of increasing demand for higher education, rapidly expanding costs and greater investment in higher education research, there are growing concerns across OECD member countries about the financial sustainability of higher education systems (see Chapter 1). Policy options addressing these concerns have included limiting the growth in expenditure, particularly during the economic crisis of 2008/2009; implementing mechanisms that tie funding to performance; increasing the share of funding from private sources and reducing the cost of higher education through online learning and open educational resources (Deming et al., 2015[2]; OECD, 2015[3]). Even so, policy priorities in some OECD countries may still require increased higher education funding in some areas, for example for measures related to improving student financial support or the quality of the learning environment (OECD, 2018[4]).

This chapter examines who pays for higher education in OECD countries, how the funding is spent, and which funding mechanisms that are in place in participating jurisdictions to support higher education students and institutions. This chapter also discusses different strategies for student financial support and mechanisms to allocate public funding to public and government-dependent institutions.

The metric data presented covers all OECD member countries, while the policy and practice information covers the four jurisdictions participating in the OECD Benchmarking Higher Education System Performance exercise 2017/2018: Estonia, the Flemish Community, the Netherlands and Norway. For these participating jurisdictions, the chapter also provides an analysis of the university or professional higher education institution (HEI) subsectors, reflecting the interest from a policy perspective in performance differences between higher education subsectors.

The chapter concludes with a brief review of the analysis and a discussion of the main information gaps identified during the benchmarking exercise.

3.1. Measuring expenditure on higher education

Higher education expenditure is a broad statistical concept including expenditure by public and private sources on all higher education activities (education, research and development, and ancillary services for students). It includes expenditure by higher education institutions (for example, salaries paid to the personnel) but also some forms of expenditure outside the institutions (for example, students' expenditure on textbooks).

Higher education expenditure provides a measure of the social investment in complex and advanced knowledge and skills. This is increasingly important as economies move closer to the knowledge frontier, i.e. the innovation of existing products and services becomes more important in generating economic growth (Vandenbussche, Aghion and Meghir, 2006[5]; Aghion, Boustan and Hoxby, 2009[6]).

In international comparative statistics, higher education expenditure is usually expressed in three ways (see also Table 3.1):

- Expenditure on higher education institutions as a percentage of GDP from public and private sources of funds, including international sources, which shows the overall level of investment in higher education at the systemic level. As compared to the following two indicators, this gives a better indication of a society's investment in higher education relative to its economic possibilities.
- Public expenditure on higher education as a percentage of total public expenditure, which indicates the importance of higher education within the public budget. Public expenditure funds higher education as well as many other domains (e.g. social protection, defence). This measure of expenditure indicates how much the government invests in education, relative to these other domains.
- Expenditure per student, which shows the actual amount of resources available to higher education institutions, relative to the number of students. This measure reflects the capacity of institutions to provide services of various types, and to hire staff at competitive salaries.

Table 3.1. Calculation of three selected measures of higher education expenditure

	Includes	Excludes	Calculation (total amount divided by)
Expenditure on higher education institutions as a percentage of GDP	Expenditure from all sources (public and private) on institutions	All expenditure outside institutions (e.g. living costs of students, books, private tutoring)	GDP in purchasing power parities (PPP)
Public expenditure on higher education as a percentage of total public expenditure	Public expenditure on institutions and all public grants and loans (including those directly or indirectly financing expenditure outside institutions, such as living costs of students, books, private tutoring)	Private expenditure and expenditure from international public sources	Total public expenditure
Annual expenditure per student by higher education institutions	Expenditure from all sources (public and private) on institutions	All expenditure outside institutions (e.g. living costs of students, books, private tutoring)	Full-time equivalent number of students at all levels of higher education

The relative position of a country regarding expenditure on higher education varies depending on the measure of expenditure used (Figure 3.1). For example, a country can prioritise higher education in the allocation of public expenditure, resulting in a comparatively high level of higher education public expenditure over the total of public expenditure. However, if there are low levels of private expenditure on higher education, it can still have a relatively low level of expenditure on higher education as a proportion of GDP. The level of expenditure on higher education is also related to a number of other factors, including the wealth of a country and the relative size of young cohorts in the population (Box 3.1).