

The European Higher Education Area in 2018

*Bologna Process
Implementation Report*

Chapter 3: Degrees and Qualifications

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Implementation Report**

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FOREWORD



The Bologna Process has brought us a long way towards achieving the goals for European higher education set two decades ago. This third edition of the Bologna Process Implementation Report provides clear evidence of change in the higher education landscape. It shows where progress has been made, but also points to the gaps that need to be filled if we are to strengthen European higher education cooperation on the basis of quality and mutual trust.

Higher education has been evolving rapidly to respond to fast changing demands. Overall in Europe, we are becoming better educated, as more students have the opportunity to develop the high-level skills and knowledge that our societies require. Thanks to the Bologna Process and the Erasmus+ programme, students have become more mobile, and can benefit from study and employment opportunities abroad. Yet we also face challenges in this changing environment: How do we recognise and reward good teaching as well as good research? How do we ensure that young people from disadvantaged backgrounds can access and successfully complete higher education? How do we remove burdensome recognition procedures to ensure that students and graduates can be mobile? And how do we increase the relevance of higher education programmes for a labour market that is in a state of permanent transformation? The Bologna Process provides a space for countries to discuss these challenges, and this dialogue remains critical.

Twenty years ago four countries signed the Sorbonne Declaration, initiating a wave of coordinated higher education reform through the Bologna Process. Now ministers from 48 European countries will gather in Paris to take stock of our current situation, and to discuss the path forward. This geographical evolution illustrates the impact the Bologna Process has had – and it highlights Europe's potential to set high standards for modern and relevant educational provision. The Bologna Process has not only inspired change within European higher education, but also across other world regions. This is important to recognise, as today, more than ever, Europeans have to embrace an increasingly complex and inter-connected global reality.

We should of course be proud of our achievements. But we must not be complacent. We need to redouble our efforts to bring Europe's higher education institutions, researchers and students even closer together. The technical goals of the Bologna Process – converging degree structures, shared standards for quality assurance and common recognition practice – were never ends in themselves. Rather they were the preconditions for ensuring that we understand and trust each other's higher education provision, enabling us to work together in a more seamless way. This is what our young people demand, this is what our economies require and this is what our societies need.

The European Commission's role is to support, but also to drive positive change. And this is why we have been working on proposals to create a European Education Area by 2025. Our ambition is to

enable EU Member States to intensify and accelerate their cooperation in areas such as mobility, multilingualism, innovation and mutual recognition of diplomas, and thus also to provide inspiration to non-EU countries to follow. Our vision for 2025 is of a Europe in which learning, studying and doing research will not be hampered by borders and in which people have a strong sense of their identity as Europeans.

Where the Bologna Process has provided stable foundations, we must now build on them. Yet where the foundations are still not stable, we must secure them. The Commission's actions will aim both at working jointly with the EU Member States towards the European Education Area and at strengthening the Bologna process with all partner countries.

Tibor Navracsics

Commissioner for
Education, Culture, Youth and Sport

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EXECUTIVE SUMMARY

The Bologna Process Implementation Report provides a wide-ranging and detailed picture of how the European Higher Education Area (EHEA) has been moving forward since the Yerevan Conference in 2015. This has not been a period of radical change. Instead, for most countries, the recent years have focused on consolidating the implementation of reforms.

The Bologna Follow Up Group has identified **three key commitments** that underpin the EHEA. These commitments concern the implementation of the three-cycle degree structure, recognition of qualifications and quality assurance. They can be considered as the foundations of the EHEA: if these foundations are not in place, further European higher education cooperation is undermined.

In addition to the implementation of these commitments, the priorities of the Bologna Process as set out in the Yerevan Communiqué are learning and teaching, social inclusion and employability – all topics addressed centrally in this report. In Yerevan, ministers also pledged to continue to foster mobility and internationalisation, and called for attention to the values of the EHEA.

Three-cycle degree structures

Implementation of the Bologna three-cycle degree commitments is improving, with most countries having made the necessary reforms in line with Bologna guidelines. The main Bologna tools – ECTS, Diploma Supplement and national qualifications frameworks – are also well implemented in most countries. Nevertheless, there remains a minority of countries where this is not the case. These countries still need to implement further reforms to ensure that their degree programmes are coherent with those in other EHEA countries.

The dominant European model is now a clearly structured three-cycle degree system. However, although Bologna commitments have mostly been met, there remain significant differences in degree structures across the EHEA as a whole.

In around half of the EHEA countries, the majority of first-cycle graduates continue to study in a second-cycle programme while in a quarter of countries it is less than 25 % that move directly into the second cycle. This may suggest significant differences in labour market recognition of first-cycle qualifications across the EHEA.

Alongside the three main cycles, around half of all EHEA countries offer short-cycle higher education programmes. These programmes are usually vocational, offered at ISCED 5 level, and most often have a workload of 120 ECTS. In around half of the countries with such programmes, learning achievements can be fully recognised within first-cycle studies in the same field, while in the other half recognition is less substantial. Comparing short-cycle higher education programmes across the EHEA is further complicated by the existence in many countries of 'short-cycle tertiary education' programmes, which are not recognised within the national higher education systems.

Most EHEA countries also offer other programmes outside the three-cycle-degree structure. 'Integrated' or 'long' programmes of at least five years duration leading directly to a second-cycle degree exist in most EHEA countries, usually in regulated professional fields. They involve fewer than 5 % of students in some countries, but more than 20 % in others. In around a quarter of EHEA countries, there are also other programmes outside the main three-cycle degree framework.

There has been good progress since 2015 in the implementation of the Diploma Supplement. Indeed, most EHEA countries now comply with all the commonly agreed principles. The Diploma Supplement

is also commonly issued after short-cycle higher education programmes, but is far from being the norm in the third cycle.

Good progress can also be observed in the implementation of national qualifications frameworks (NQFs). Most countries have established a national qualifications framework for higher education, self-certified it to the Framework for Qualifications of the European Higher Education Area (QF-EHEA) and it is used by national authorities in public policy. In most countries, NQFs for higher education are integrated into NQFs for lifelong learning, which suggests widespread efforts in using NQFs for coordinating qualifications across sectors and levels of education.

Although many countries have now completed their NQF, there remain a few where development is slow or not moving. These countries are missing the opportunity to increase the transparency of their qualifications system both within and outside the country.

Recognition of qualifications

Formal compliance with most aspects of the Lisbon Recognition Convention (LRC) at national level is well established across the EHEA, as the content of national legislation and regulations is generally coherent with the international legal framework. However, work still needs to be done to ensure that appropriate procedures are established and followed for recognition of qualifications of refugees, displaced persons and persons in a refugee-like situation as specified in Article VII of the LRC.

Nevertheless recognition problems are reported to be still prevalent. This could be because higher education institutions, who are usually responsible for recognition decisions for academic purposes, may not always follow all the required principles of good recognition practice.

With regard to the goal of securing more 'automatic recognition' – understood as system-level recognition for the purposes of further academic study – considerable effort is still required to agree on a common understanding of the concept, and to make it a reality.

Quality assurance

Quality assurance continues to be an area of dynamic development in European higher education. The requirement for higher education institutions to develop and publish quality assurance strategies and evaluation reports is becoming increasingly established, while external quality assurance is almost always undertaken by independent agencies working in line with the Standards and Guidelines for European Quality Assurance (ESG). Indeed the adoption and integration of the ESG in national practice has been widely addressed and achieved.

Nevertheless, there are still areas where attention is needed. Some countries still need to take action to ensure that students are fully involved in all quality assurance processes as equal partners. It is also worth noting that improvement-oriented models of external quality assurance are far less prevalent in the EHEA than supervisory models. Higher education institutions in many countries are also restricted to using national quality assurance agencies to fulfil their external quality assurance obligations, rather than benefitting from the work of other suitable EQAR-registered European agencies. In addition, the European Approach to the Quality Assurance of Joint Programmes, although adopted in Yerevan, has hardly been implemented. Indeed it is not yet permitted by national legislation in many countries, and in particular in those where programme accreditation is required. These are precisely the countries where the European Approach to the Quality Assurance of Joint Programmes potentially offers the greatest potential benefit as a more appropriate, effective and efficient form of quality assurance.

Learning and teaching

Improving learning and teaching is among the most fundamental objectives of the Bologna Process. Strategies to achieve this objective are now quite widespread across the EHEA, both at national level and within higher education institutions. Steering commonly promotes the development of international opportunities, academic staff development and measures to improve teaching. Digitally enabled teaching and learning is also increasingly addressed strategically at national and institutional levels.

In most countries ECTS has been integrated as both a credit accumulation and transfer system, with learning outcomes and student workload increasingly used as the basis for credit allocation. This provides common foundations for the understanding of European higher education programmes. However, there is a need to ensure that the 2015 ECTS Users Guide adopted by ministers is the basis for correct implementation of the system. To this end, around a third of the countries could take action to encourage quality assurance processes to pay attention to this issue.

Higher education teachers are the key players in enabling students' learning, and appropriate training in teaching skills both before being employed and throughout careers is an essential pre-requisite for a high quality system. Yet, regulations rarely require academics to hold a teaching qualification, and the development of teaching skills is often left to ad hoc measures.

Opening higher education

Social dimension challenges have accompanied the Bologna Process throughout its existence. Yet, disadvantaged learners still face access barriers to higher education: students from low and medium-educated families are strongly under-represented, and are more likely to enter higher education with a delay; gender imbalances, if improving slightly, still persist and remain marked in some discipline areas with significant implications for the labour market and society; and life-long learning is not a reality for learners in many countries.

In addition to barriers to access, disadvantaged students also face difficulties in completing higher education, dropping out in higher proportions. Despite evidence of these trends over a number of years, and commitments re-iterated in several ministerial communiqués, only a few countries have introduced measures in recent years to improve the conditions for under-represented groups to access and complete higher education.

Employability

Employment of recent graduates has improved as countries recover from the economic crisis. Nevertheless, graduate unemployment remains a significant problem in some parts of Europe, as not all countries have recovered to the same extent and at the same speed. There is also a gender aspect to employment issues, as in some countries women face more difficulties than men in finding employment after graduation.

Systematic efforts to improve the relationship between higher education and the labour market still need to be better developed and implemented. Action could include using labour market forecasts, involving employers in curriculum planning and higher education governance, providing incentives to include work placements in higher education programmes, improving career guidance services, as well as encouraging student mobility.

Internationalisation

The trend for internationalisation is growing across the EHEA. However, mobility flows and the level of engagement in internationalisation activities vary considerably from country to country. There has been a significant increase in the use of targets to support and monitor progress in student mobility with only one quarter of all countries now having no targets for either incoming or outgoing student mobility.

There continue to be substantial differences between countries with regard to portability of domestic student financial support. Only around one-third of EHEA countries enable domestic financial support to be portable for credit and degree mobility. Moreover there is almost no support facilitating the mobility of students from under-represented groups in the majority of countries. Staff mobility targets are also reported by almost half of all EHEA countries, but often refer only to a general objective of increasing the numbers of mobile staff.

Values

The Yerevan Communiqué emphasises shared values as the foundation of a renewed vision of the European Higher Education Area. Specifically, the ministers highlight academic freedom and autonomy of higher education institutions, while EHEA values also include student and other stakeholder participation in the democratic governance and management of higher education.

While concerns have been raised about violations of values in some EHEA countries, it is difficult to find causal explanations related to the different systems of higher education governance in operation across the EHEA. There is nevertheless a continuing need to discuss the values that unite higher education systems, and to be vigilant that robust legal protection is in place – including defining and limiting the role of governments in the organisation and management of higher education institutions.

INTRODUCTION

The Bologna Process

The Bologna Declaration was signed in 1999 by ministers responsible for higher education from 29 European countries. However its origins lie a year further back in the Sorbonne Conference and Declaration of 1998. These events and texts set in motion a European cooperation process that has radically changed higher education. Reforms have affected countries within and beyond Europe, and the number of official signatory countries has risen to 48, with Belarus the most recent state to join in 2015.

The chart below outlines the main milestones and commitments of the ministerial conferences within the Bologna Process up to 2015. It illustrates that several main themes can be followed throughout the process – mobility of students and staff, a common degree system, the social dimension, lifelong learning, a European system of credits, quality assurance and the development of Europe as an attractive knowledge region. Learning and teaching was added as an explicit priority in the Yerevan Communiqué.

The Yerevan Communiqué sets out a streamlined and updated policy agenda focusing on four key policy areas: implementation of key commitments; learning and teaching; employability; and social inclusion. These goals and objectives are all addressed in the report, and the combined analysis across the seven chapters aims to present a picture of the current reality of the European Higher Education Area (EHEA).

The Bologna Process: from Sorbonne to Yerevan, 1998-2015

Mobility of students and teachers	Mobility also for researchers and administrative staff	Social dimension of mobility	Portability of loans and grants	Attention to visa and work permits	Attention also to pension systems and recognition	Benchmark of 20 % by 2020 for student mobility	Explore path to automatic recognition of academic qualifications	Implementation of key commitments
A common two-cycle degree system	Easily readable and comparable degrees	Fair recognition Development of joint degrees	Inclusion of doctoral level as third cycle	QF-EHEA adopted National Qualifications Frameworks (NQFs) launched	NQFs by 2010	NQFs by 2012	Roadmaps for countries without NQF	Implementation of key commitments
		Social dimension	Equal access	Reinforcement of the social dimension	Commitment to national action plans	National targets for the social dimension to be measured by 2020	Widening access and completion rates	Social inclusion
		Lifelong learning (LLL)	Alignment of national LLL policies Recognition of Prior Learning (RPL)	Flexible learning paths	Partnerships to improve employability	LLL as a public responsibility Focus on employability	Enhance employability, LLL and entrepreneurial skills through cooperation with employers	Employability
Use of credits	A system of credits (ECTS)	ECTS and Diploma Supplement (DS)	ECTS for credit accumulation		Coherent use of tools and recognition practices	Implementation of Bologna tools	Ensure that Bologna tools are based on learning outcomes	Adoption of ECTS Users Guide
	European cooperation in quality assurance (QA)	Cooperation between QA and recognition professionals	QA at institutional, national and European level	European Standards and Guidelines for quality assurance (ESG) adopted	Creation of the European Quality Assurance Register (EQAR)	Quality as an overarching focus for EHEA	Allow EQAR registered agencies to perform their activities across the EHEA	Adoption of revised ESG and European Approach to QA of joint programmes
Europe of Knowledge	European dimensions in higher education	Attractiveness of the EHEA	Links between higher education and research areas	International cooperation on the basis of values and sustainable development	Strategy to improve the global dimension of the Bologna Process adopted	Enhance global policy dialogue through Bologna Policy Fora	Evaluate implementation of 2007 global dimension strategy	
								Learning and Teaching: Relevance and quality
1998	1999	2001	2003	2005	2007	2009	2012	2015
Sorbonne Declaration	Bologna Declaration	Prague Communiqué	Berlin Communiqué	Bergen Communiqué	London Communiqué	Leuven/ Louvain-la-Neuve Communiqué	Bucharest Communiqué	Yerevan Communiqué

Report outline

This report has been prepared for the European Ministerial Conference in Paris, France, on 24-25 May 2018. It provides a snapshot of the state of implementation of the Bologna Process from various perspectives using data collected mostly in the first half of 2017. It provides both qualitative information and statistical data, and covers all main aspects of higher education reforms aiming at a well-functioning EHEA.

The report is a successor to the two Bologna Process Implementation Reports (2012 and 2015) and has been developed through collaboration between the Bologna Follow-up Group (BFUG) and Eurostat, Eurostudent and Eurydice. For the first time, it also includes some indicators collected by the European Students Union (ESU), the European University Association (EUA), and the European Quality Assurance Register for higher education (EQAR).

The development of the report has been overseen by the Bologna Follow-up Group (BFUG), and specifically by a working group established to guide all aspects of the reporting process. The group was co-chaired by Tone Flood Strøm (Norway), Andrejs Rauhvargers (Latvia) and David Crosier (Eurydice). Close collaboration was also established with all BFUG advisory and working groups.

Qualitative information was gathered through two extensive questionnaires (an Excel questionnaire and an on-line questionnaire) addressed to BFUG members. These were submitted, after consultation with all relevant national actors, by the Bologna representatives in all 48 countries between March and December 2017. For the United Kingdom and Belgium, two responses each were submitted. The United Kingdom (England, Wales and Northern Ireland) is therefore treated as a separate higher education system to that of Scotland, while the Flemish and French Communities of Belgium are also considered as distinct higher education systems. However where statistical data is combined for Belgium and the United Kingdom in Eurostat's database, it is presented in a combined form in this report.

The qualitative data is based mainly on official information about legislation, regulations and national policies, and in some cases country representatives are asked to report on their perception of specific aspects of higher education reality. The data refers to higher education institutions that are directly or indirectly administered by a public education authority, which means public and publicly-subsidised private higher education institutions.

With regard to statistical data, the European Union's Education, Audiovisual and Culture Executive Agency (EACEA), working through a consortium led by Sogeti, Luxembourg, undertook a specific data collection in 2017 for the EHEA countries that are not part of regular Eurostat data gathering exercises.

The report draws upon a number of additional data sources. Eurostudent data is provided by the Eurostudent VI survey and focuses on the social and economic conditions of student life in Europe. The reference year for the data is 2016/17, and the report covers 28 of the 48 EHEA countries.

Information from the European University Association's Trends 2018 report is used substantially in Chapter 2 on learning and teaching. This report provides an institutional perspective on higher education developments in Europe. The reference year for this survey is 2017, and it involves 303 higher education institutions from 43 of the EHEA systems.

Certain indicators throughout the report are provided by the European Student Union (ESU) member organisations. This data was collected through an online survey to European student unions in the second half of 2017, and will also be used in ESU's 2018 edition of Bologna with Student Eyes.

The European Quality Assurance Register (EQAR) also hosted a short survey on cross border higher education quality assurance, and the responses to this questionnaire are used for the report's information on cross border quality assurance.

The reference year 2016/17 is applicable for qualitative data throughout the report, as well as for Eurostudent indicators. Eurostat statistical indicators generally use 2015 as the most recent reference year, with other years shown where relevant to provide a picture of trends.

The report is divided into seven thematic chapters, with a structure that aims to maintain coherence with the previous Bologna Process Implementation Reports, but also to reflect the most recent political priorities set in Yerevan in 2015. Each chapter has an introduction presenting the relevance of the topic in the Bologna Process, the commitments made in the Yerevan Communiqué, and the main findings of the 2015 Bologna Process Implementation Report, where relevant. The chapter then presents information through comparative indicators whose purpose is to describe the state of implementation in all countries from various perspectives. The text explains main developments, highlights issues regarding implementation, and provides examples of practice that may be of general interest.

The majority of indicators were developed for the 2012 Bologna Process Implementation Report, were updated in 2015 and have again been updated in this report, sometimes with substantial modification. A number of new indicators have also been developed, particularly to investigate more recent policy priorities.

Among the indicators presented in the report are 13 'scorecard indicators' that are designed to track country progress in implementing Bologna Process policy commitments. These scorecard indicators were already used in the 2015 edition of the Bologna Process Implementation Report to cover all but one of the issues assessed, although in some cases there have been significant revisions to the indicators for this edition. The new scorecard indicator in this report focuses on system level (automatic) recognition for academic purposes.

CHAPTER 3:

DEGREES AND QUALIFICATIONS

The Yerevan Communiqué

In the 2015 Yerevan Communiqué, ministers responsible for higher education reaffirmed their collective ambition to implement the agreed structural reforms. They noted that 'implementation of the structural reforms is uneven and the tools are sometimes used incorrectly or in bureaucratic and superficial ways' ⁽³⁸⁾. Alongside the three-cycle degree structure, the ministers confirmed their willingness to include short-cycle qualifications in the overarching framework of qualifications for the European Higher Education Area (QF-EHEA). The objective is to facilitate the recognition of short-cycle qualifications not only in higher education systems where such qualifications exist, but also in those that do not comprise them ⁽³⁹⁾. The ministers have also agreed to 'review national qualifications frameworks, with a view to ensuring that learning paths within the framework provide adequately for the recognition of prior learning' ⁽⁴⁰⁾.

The 2015 Bologna Process Implementation Report

The 2015 Bologna Process Implementation Report (European Commission/EACEA/Eurydice, 2015) provided an overview of progress made towards the implementation of a common degree structure since 2012. In relation to the first cycle, the report confirmed that most countries combine programmes of 180 ECTS and 240 ECTS. In the second cycle, the most common model is 120 ECTS – two-thirds of programmes following this workload. However, when taking into consideration all credit models that coexist in the EHEA, the report concluded that the total workload of the first and second cycles combined may vary by up to 120 ECTS, which can potentially cause recognition problems.

Regarding short-cycle qualifications, the report identified substantial differences across the EHEA, noticing that short-cycle qualifications can be part of higher education, part of post-secondary vocational education or even part of secondary education. Moreover, when continuing in the first cycle, short-cycle graduates gain different numbers of credits: from full credit, down to zero credits. Based on these observations, the report called for improved readability and international comparability of short-cycle qualifications.

In relation to the Bologna tools, the report recognised substantial developments as well as remaining challenges. For example, the Diploma Supplement – now a widely used instrument – is not always issued according to the agreed principles, i.e. to every graduate, automatically, in a widely spoken European language and free of charge. The report also noted substantial progress regarding the implementation of national qualifications frameworks, but at the same time, it acknowledged that most countries still face challenges in including non-formal qualifications in national frameworks self-certified against the Framework for Qualifications of the European Higher Education Area (QF-EHEA).

⁽³⁸⁾ Yerevan Communiqué, adopted at the EHEA Ministerial Conference in Yerevan, 14-15 May 2015, p. 1.

⁽³⁹⁾ Ibid.

⁽⁴⁰⁾ Ibid., p. 4.

Chapter outline

This chapter discusses Bologna structures and selected tools in two parts. The first part is devoted to the implementation of a common degree structure. The second part concentrates on two Bologna tools: the Diploma Supplement and national qualifications frameworks. The implementation of another key Bologna tool – the European Credit Transfer and Accumulation System (ECTS) – is discussed in Chapter 2 that focuses on learning and teaching.

3.1. Implementation of a common degree structure

One of the key commitments of the 1999 Bologna Declaration ⁽⁴¹⁾ was the adoption of a system based on two main cycles: undergraduate and graduate. In 2003, ministers expressed a further commitment: the inclusion of the doctoral level as the third cycle in the Bologna Process ⁽⁴²⁾. During the same year, they also invited the Bologna Follow-up Group (BFUG) to explore whether and how shorter higher education could be linked to first-cycle higher education programmes ⁽⁴³⁾. Hence, the Bologna Process has been promoting a three-cycle structure consisting of undergraduate (first-cycle), graduate (second-cycle) and doctoral (third-cycle) programmes, with the possibility of intermediate (short-cycle) qualifications linked to the first cycle.

Following the above, this section starts by looking at the implementation of the three-cycle structure, outlining also the presence of intermediate qualifications linked to first-cycle higher education. It then considers programmes outside the commonly agreed degree structure, namely integrated (long) higher education programmes and other programmes not falling under the Bologna framework.

3.1.1. The Bologna three-cycle system and intermediate (short-cycle) qualifications

Figure 3.1 depicts the distribution of students across the three main cycles, corresponding to ISCED levels 6-8 (bachelor, master and doctoral or equivalent programmes ⁽⁴⁴⁾). It also indicates the proportion of students participating in ISCED 5 programmes (short-cycle tertiary education), where such programmes exist.

In 2014/15, in virtually all EHEA countries, more than half of all students participated in a bachelor or equivalent programme (ISCED 6). The highest proportion – more than 80 % – was registered in Andorra, Bosnia and Herzegovina, Georgia, Greece, the former Yugoslav Republic of Macedonia, Montenegro and Serbia. In contrast, in Austria, France, Luxembourg and Russia, the proportion of students in ISCED 6 programmes was relatively low – situated between 40 % and 50 %. This can be explained both by the presence of ISCED 5 programmes in the latter group of countries and by a relatively high proportion of students in ISCED 7 programmes.

There are significant differences between countries in terms of the participation in master or equivalent programmes. The lowest share – less than 10 % – is observed in Andorra, Azerbaijan, Belarus, Georgia, Greece, Kazakhstan, the former Yugoslav Republic of Macedonia, Montenegro and Turkey. At the other end of the scale are countries where more than 30 % of all higher education students can be found in ISCED 7 programmes, namely Austria, Bulgaria, Croatia, the Czech Republic, Cyprus, France, Germany, Italy, Liechtenstein, Luxembourg, Poland, Portugal, Romania, Slovakia and Sweden.

⁽⁴¹⁾ The Bologna Declaration of 19 June 1999.

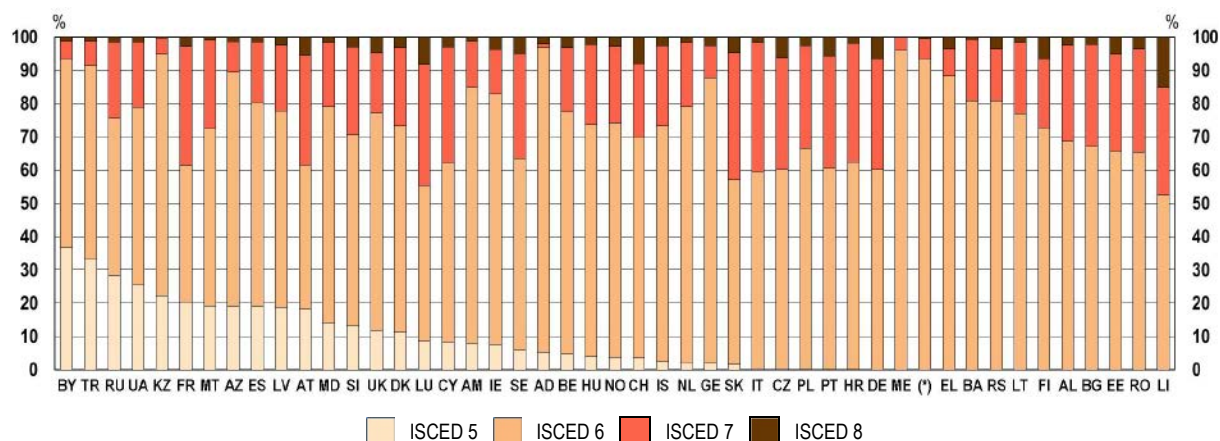
⁽⁴²⁾ Realising the European Higher Education Area. Communiqué of the Conference of Ministers responsible for Higher Education, Berlin, 19 September 2003.

⁽⁴³⁾ Ibid.

⁽⁴⁴⁾ For more details on the ISCED classification, see the Glossary and Methodological Notes.

Doctoral or equivalent programmes (ISCED 8) generally involve only a small proportion of all students; in most countries, it is less than 5 % of the student population. The lowest share – below 1 % – is observed in Bosnia and Herzegovina, Kazakhstan, the former Yugoslav Republic of Macedonia, Malta and Montenegro. The highest proportion – above 6 % – is registered in Liechtenstein (15.2 % ⁽⁴⁵⁾), Luxembourg (8.3 %), Switzerland (8 %), Germany, Finland (both 6.6 %) and the Czech Republic (6.2 %).

Figure 3.1: Distribution of students enrolled in ISCED 5-8 programmes, 2014/15



(*): the former Yugoslav Republic of Macedonia

%	BY	TR	RU	UA	KZ	FR	MT	AZ	ES	LV	AT	MD	SI	UK	DK	LU	CY	AM	IE	SE	AD	BE	HU	NO
ISCED 5	36.7	33.2	28.3	25.5	22.2	20.4	19.2	19.0	19.0	18.8	18.3	14.1	13.4	11.7	11.1	8.5	8.4	8.0	7.7	5.9	5.3	4.8	3.8	3.7
ISCED 6	56.8	58.2	47.3	53.3	72.5	40.9	53.2	70.3	61.3	59.0	43.1	65.0	57.1	65.4	62.2	46.9	53.8	76.8	75.2	57.5	91.5	72.5	69.8	70.4
ISCED 7	5.4	7.3	22.8	19.5	4.9	35.8	26.8	9.2	18.1	19.7	32.9	19.1	26.4	18.1	23.5	36.4	34.8	14.0	13.3	31.6	1.1	19.4	24.1	23.2
ISCED 8	1.2	1.3	1.7	1.7	0.3	2.8	0.9	1.4	1.6	2.6	5.6	1.8	3.1	4.8	3.2	8.3	3.0	1.2	3.8	5.0	2.2	3.3	2.3	2.8

%	CH	IS	NL	GE	SK	IT	CZ	PL	PT	HR	DE	ME	(*)	EL	BA	RS	LT	FI	AL	BG	EE	RO	LI
ISCED 5	3.5	2.6	2.2	1.8	1.5	0.4	0.3	0.2	0.1	0.1	0.0	:	:	:	:	:	:	:	:	:	:	:	:
ISCED 6	66.4	70.7	76.8	85.7	55.6	58.9	59.9	66.3	60.4	62.3	60.2	95.8	93.4	88.4	80.9	80.8	76.9	72.5	68.6	66.9	65.7	65.4	52.4
ISCED 7	22.1	24.0	19.3	9.8	38.0	38.9	33.6	30.9	33.8	35.7	33.2	4.0	6.1	8.1	18.4	15.7	21.3	20.9	28.9	30.7	29.0	31.0	32.4
ISCED 8	8.0	2.7	1.7	2.7	4.9	1.8	6.2	2.6	5.7	1.9	6.6	0.2	0.5	3.5	0.8	3.5	1.9	6.6	2.5	2.4	5.3	3.6	15.2

Source: Eurostat, UOE and additional collection for the other EHEA countries.

Notes:

Countries are arranged by the participation in ISCED 5 programmes. Countries without ISCED 5 are sorted according to the participation in ISCED 6 programmes. Germany, where ISCED 5 concerns only 394 students (see Chapter 1, Figure 1.1), is still sorted by the participation in ISCED 5.

Alongside the three main cycles, around two thirds of all EHEA countries offer programmes categorised under 'short-cycle tertiary education' (ISCED 5). However, in a number of countries, ISCED 5 programmes involve only a small proportion of all students (e.g. less than 1 %). The highest share of students in these programmes – above 20 % – is observed in Belarus, France, Kazakhstan, Russia, Turkey and Ukraine. Yet, as discussed further in the text (see Figure 3.7 and related analysis), ISCED 5 programmes are not always recognised as part of higher education systems.

⁽⁴⁵⁾ It must be noted that around 95 % of students from Liechtenstein study abroad, mainly in Switzerland and Austria. The high percentage of third-cycle students is closely related to the existence of two private universities that only offer doctoral and post-graduate programmes.

3.1.1.1. First and second cycle

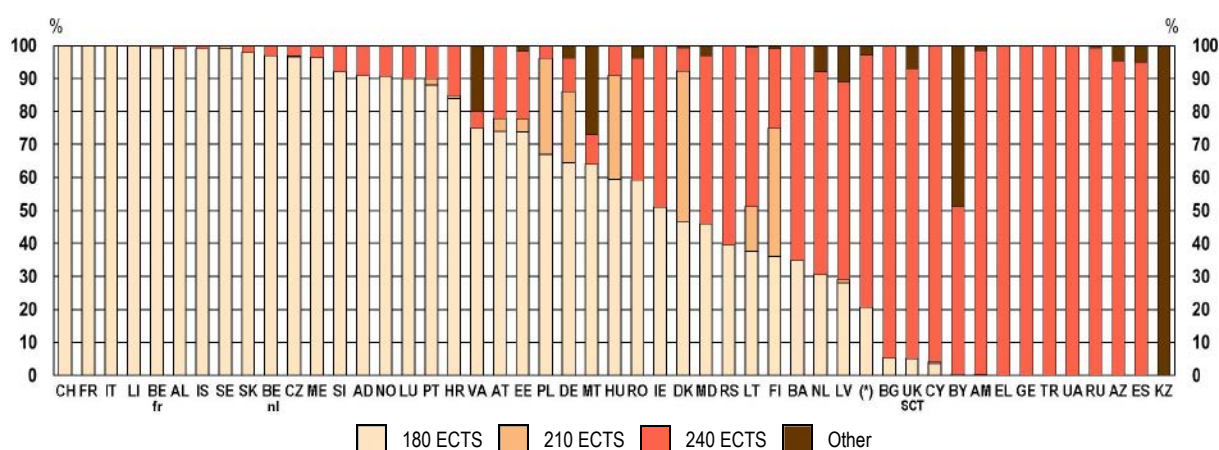
Moving from a quantitative overview to a qualitative analysis, Figures 3.2 and 3.3 depict the workload of first- and second-cycle programmes expressed in ECTS credits. Both figures indicate that different credit models often coexist within the same system, even though in most systems one credit model clearly dominates.

In the first cycle (see Figure 3.2), the 180 ECTS workload is the most widespread, characterising the majority of programmes in more than half of all EHEA countries. In France, Italy, Liechtenstein and Switzerland, this model applies to all first-cycle programmes, and in further 12 systems, 90 % or more of first-cycle programmes are concerned. Another quite widespread model is the 240 credits model, which applies to most first-cycle programmes in around one-third of all EHEA countries. Georgia, Greece, Turkey and Ukraine apply this model to all first cycle programmes, whereas in Armenia, Azerbaijan, Bulgaria, Cyprus, Russia and Spain, it characterises more than 90 % of programmes. The geographical distribution of the two main models suggests that in south-eastern Europe and in a number of post-Soviet states, first-cycle programmes have generally more substantial workload compared to other parts of the EHEA.

The existence of the 210 ECTS first-cycle model is reported only from around a quarter of all EHEA countries, but in most of them, this model is not very widespread and concerns only up to 5 % of all first-cycle programmes. Denmark, Finland, Germany, Hungary and Poland are exceptions to this pattern, with more than 20 % of all first-cycle programmes applying this pattern.

Other workload models are relatively uncommon in the first cycle, either non-existent or concerning less than 10 % of all first-cycle programmes. In Kazakhstan, however, all first-cycle programmes fall under this category, since their workload corresponds to at least 146 national credits, which is equal to 231 ECTS credits. In Belarus, almost half of all first-cycle programmes apply an 'other' workload, mostly 300 ECTS (28 %) and 270 ECTS (18 %). Further systems reporting a relatively high proportion of other first-cycle workload patterns (20 % or more programmes) are Malta and the Holy See.

Figure 3.2: Share of first cycle-programmes with a workload of 180, 210, 240 or another number of ECTS credits, 2016/17



(*): the former Yugoslav Republic of Macedonia

Source: BFUG data collection.

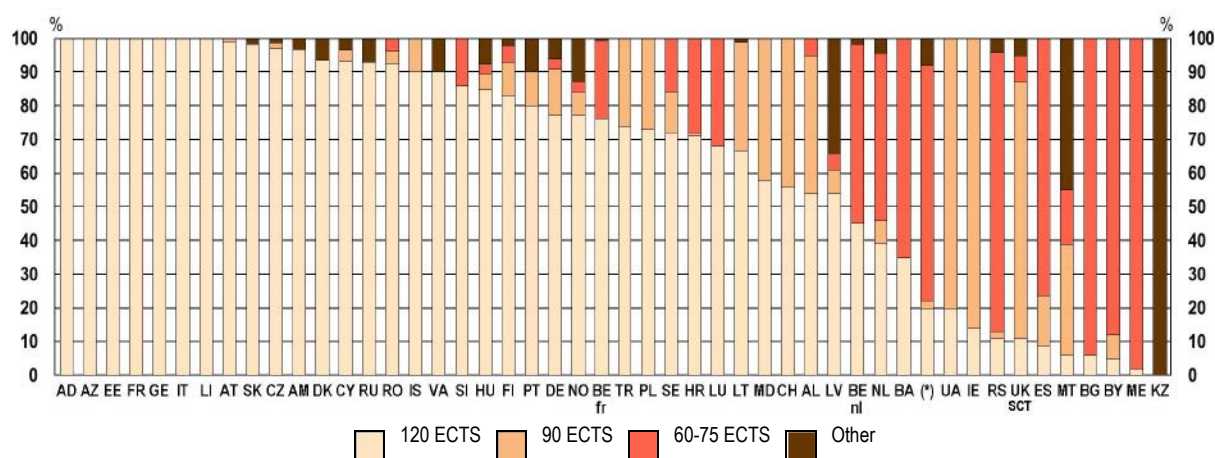
The comparison with the previous reporting shows only minor variations in the use of different workload models in the first cycle (up to ten percentage points). The most substantial changes are noted in Andorra, Kazakhstan, Malta and the Netherlands. In the last two countries, the 180 ECTS model has decreased in favour of other credit patterns, whereas in Andorra it has increased. In Kazakhstan, all first-cycle programmes now fall under the category 'other', whereas previously, all programmes were reported under the 240 ECTS model.

In the second cycle (see Figure 3.3), the 120 ECTS model is by far the most widespread, being present in virtually all EHEA systems. It is the sole second-cycle model in Andorra, Azerbaijan, Estonia, France, Georgia, Italy and Liechtenstein, and it applies to most second-cycle programmes in around three-quarters of all EHEA countries. The 60-75 ECTS model is present in around a half of all countries, dominating in Belarus, Bosnia and Herzegovina, Bulgaria, the Flemish Community of Belgium, the former Yugoslav Republic of Macedonia, Montenegro, Serbia and Spain. The 90 ECTS model is less widespread, but still present in around a half of all EHEA countries, and dominating in Ireland, Ukraine and the United Kingdom (Scotland).

The share of second-cycle programmes with a workload outside the 60-120 ECTS interval generally does not exceed 10 %. In Kazakhstan, however, all second-cycle programmes fall under this category, since their workload corresponds to either 119 ECTS credits (around 60 % of programmes) or 93 ECTS credits (around 40 % of programmes) ⁽⁴⁶⁾. The share of second-cycle programmes with an 'other' workload is also relatively high in Malta (45 %), Latvia (34 %) and Norway (13 %).

Changes since the last reporting are not very substantial. Some countries indicate a higher share of the 120 ECTS model (e.g. Andorra, Estonia, Germany and Iceland), while in other instances, the 120 ECTS pattern has decreased either in favour of the 60-75 ECTS model (e.g. Bulgaria and Luxembourg) or in favour of other credit patterns (e.g. Latvia). In Kazakhstan, all second-cycle programmes now fall under the category 'other', whereas previously, all programmes were reported under the three credit models. It must be noted, however, that several countries reporting changes acknowledge issues with previously provided data, meaning that variations do not reflect any major reforms of second-cycle programmes.

Figure 3.3: Share of second-cycle programmes with a workload of 60-75, 90, 120 or another number of ECTS credits, 2016/17



(*): the former Yugoslav Republic of Macedonia

Source: BFUG data collection.

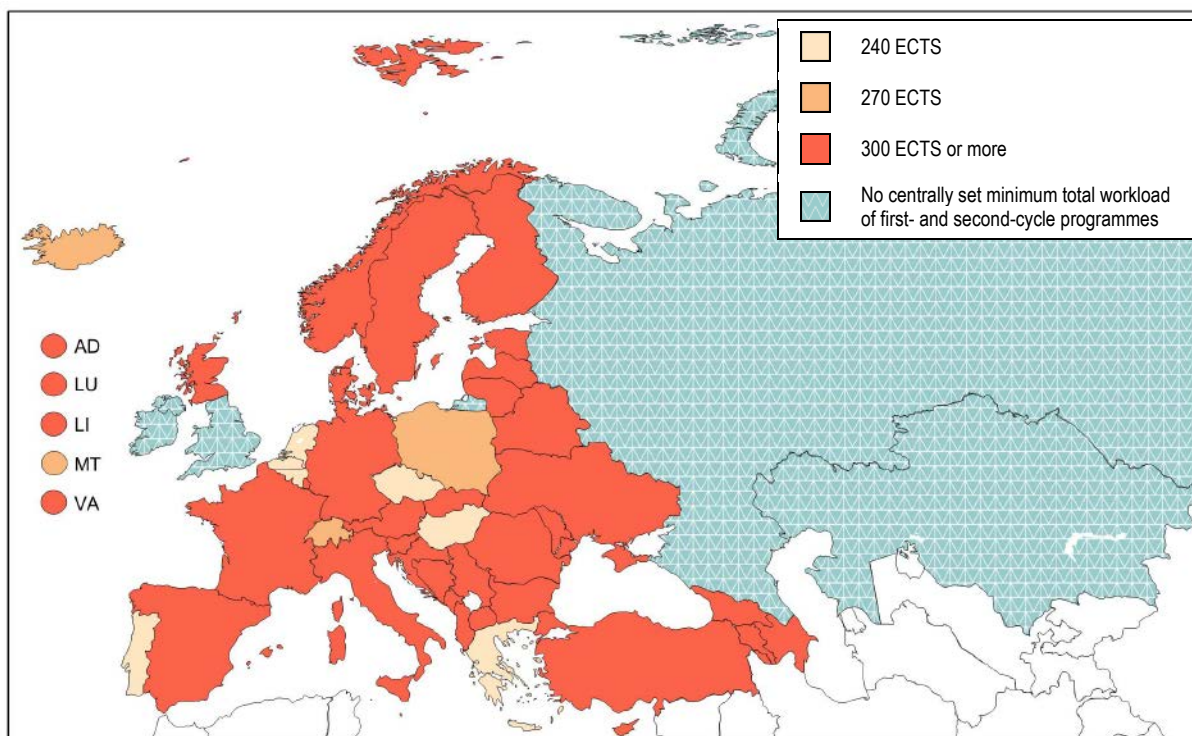
Based on the above indicators, the 2015 Bologna Process Implementation Report provided an overview of different workload models of first- and second-cycle studies combined together (European Commission/EACEA/Eurydice 2015, p. 54). The report identified a range of possible groupings, noticing that the difference between the extremes is 120 ECTS credits or two nominal years of study.

Building on the 2015 analysis, Figure 3.4 looks at the combined workload of first- and second-cycle programmes from the regulatory perspective, providing information on the centrally set minimum. It shows that virtually all EHEA countries regulate the minimum workload of the first and second cycle,

⁽⁴⁶⁾ Higher education institutions in Kazakhstan can also offer second-cycle programmes with a workload of 61 ECTS credits. However, during the academic year 2016/17, no such programmes were funded from the state budget.

and that the minimum workload of both cycles combined is commonly set at 300 ECTS or more. In some higher education systems, the centrally set minimum is lower, corresponding either to 240 or to 270 ECTS credits. However, the minimum, in particular when relatively low, does not necessarily apply to all higher education programmes. For instance, in the Czech Republic, the minimum of 240 ECTS applies only to some remaining four-year master degrees. Therefore, the regulatory perspective has to be complemented by data on the most common combined workload – the topic covered by Figure 3.5.

Figure 3.4: Centrally set minimum total workload of first- and second-cycle programmes, 2016/17



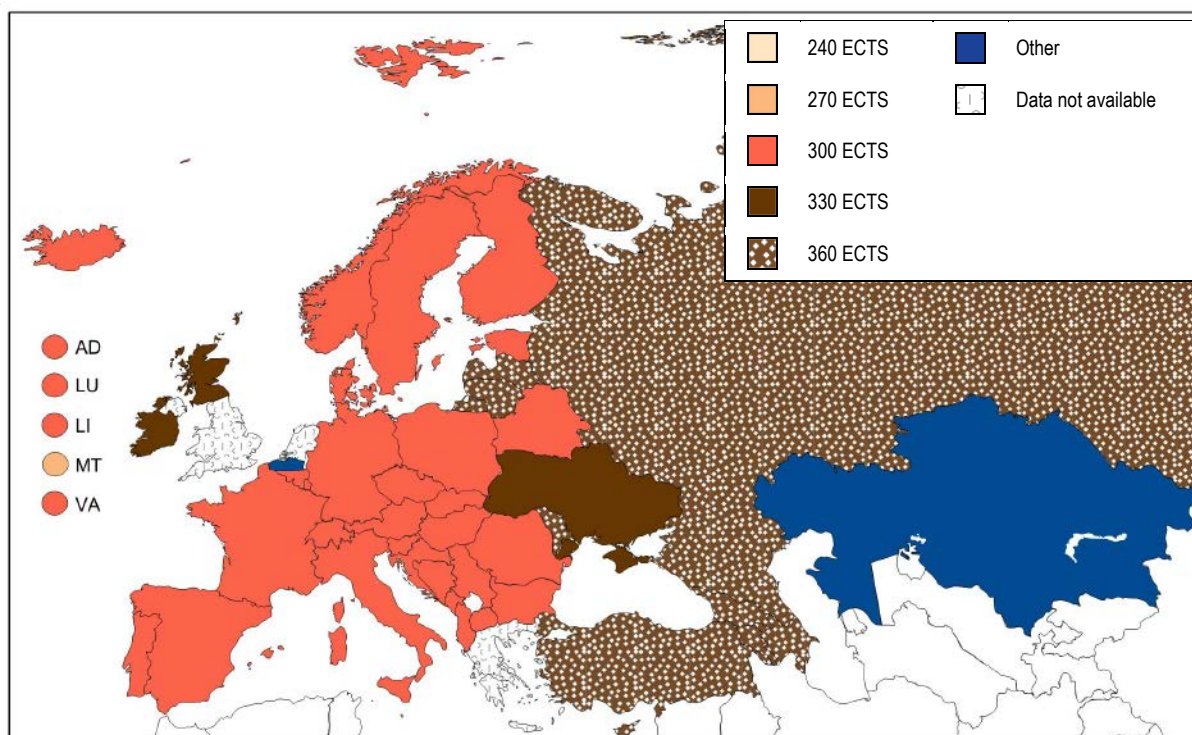
Source: BFUG data collection.

Notes:

Centrally set minimum can be defined either together for the first and the second cycle, or separately for each of the two cycles. In the latter case, the two minimum values are added.

While in several countries the minimum total workload of first- and second-cycle programmes combined is set at 240 credits (see Figure 3.4), no country reports this workload as the most common one. Indeed, the most common combined workload in three-quarters of EHEA countries is 300 ECTS (see Figure 3.5). In the eastern part of the EHEA, the most common workload is generally higher, corresponding to 360 ECTS, which is mainly due to a more substantial workload of first-cycle programmes (see Figure 3.2). There are only few exceptions to the 300 and 360 ECTS patterns. These are Ireland, Ukraine and the United Kingdom (Scotland), where the most common combined workload corresponds to 330 ECTS, the Flemish Community of Belgium, where the combined workload of around half of all programmes corresponds to 240 ECTS and of another half to 300 ECTS (some programmes also follow the 360 ECTS model), Kazakhstan (350 ECTS or 205 national credits) and Malta (270 ECTS).

Figure 3.5: Most common total workload of first- and second-cycle programmes, 2016/17



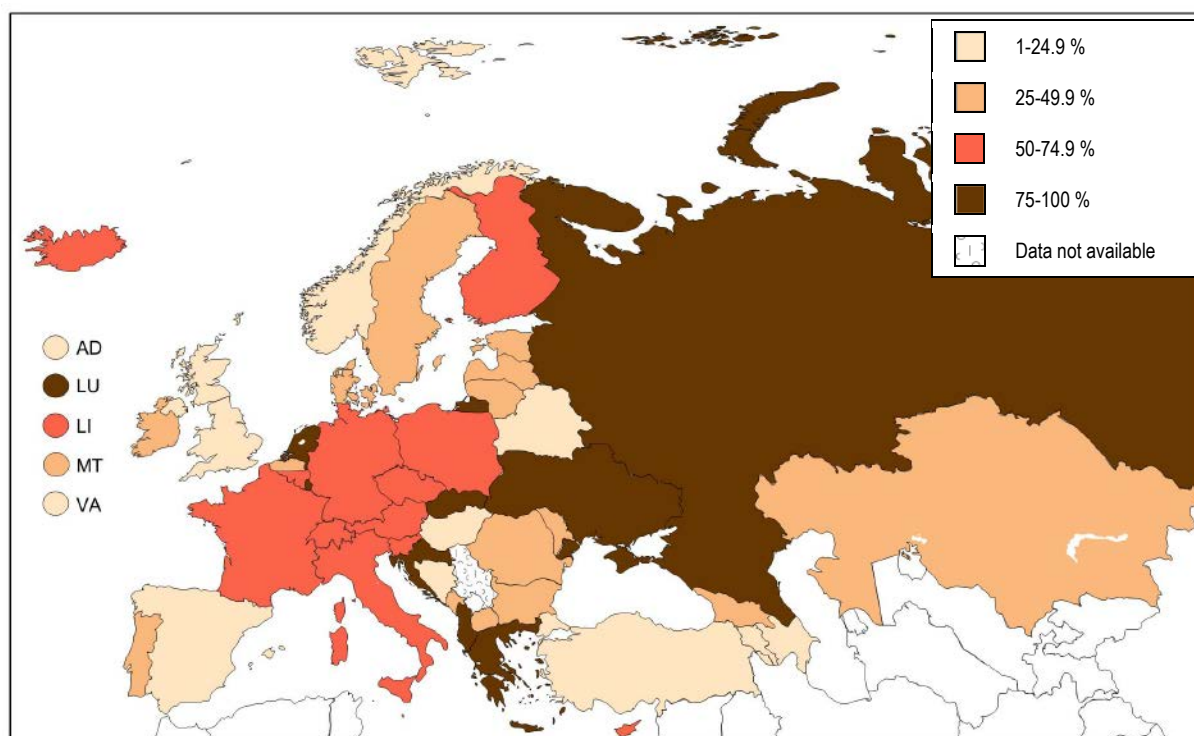
Source: BFUG data collection.

The combined workload of first- and second-cycle programmes does not imply that students necessarily study in a second-cycle programme once they complete a first-cycle degree. Indeed, the Bologna Declaration⁽⁴⁷⁾, as well as several subsequent ministerial communiqués, emphasises that the degree awarded after the first cycle shall be relevant not only to second-cycle studies, but also to the European labour market. In other words, first-cycle graduates should have a choice between pursuing their studies and starting out in employment.

Figure 3.6 examines the proportion of first-cycle graduates entering a second-cycle programme within one year after graduation. It shows that in eight countries (Albania, Croatia, Greece, Luxembourg, the Netherlands, Russia, Slovakia and Ukraine), between three-quarters and all first-cycle graduates enter a second-cycle programme within one year. This figure is slightly higher compared to the 2015 report (which identified six higher education systems in this situation), but lower compared to 2012 (which reported 13 systems). The proportion of first-cycle graduates progressing directly to the second cycle is also relatively high (50-74.9 %) in a further 13 systems, several of which are situated in central Europe. In contrast, in a dozen EHEA systems, less than one-quarter of all first-cycle graduates enter a second-cycle programme within one year of graduation. It is likely that in these countries – which can be found in different parts of Europe – first-cycle qualifications benefit from high labour market recognition.

(47) The Bologna Declaration of 19 June 1999.

Figure 3.6: Proportion of first-cycle graduates entering a second-cycle programme within one year after graduation, 2016/17



Source: BFUG data collection.

3.1.1.2. Short-cycle programmes and qualifications

Discussions around 'intermediate' or 'short-cycle' qualifications have been an integral part of the Bologna Process from its early stage. Already in 2003, ministers responsible for higher education invited the Bologna Follow-up Group to explore whether and how shorter higher education could be linked to first-cycle qualifications⁽⁴⁸⁾. The higher education level descriptors known as Dublin Descriptors – which were presented in 2003 and adopted in 2005 – make an explicit reference to 'short-cycle qualifications within or linked to the first cycle'. However, as the 2015 Bologna Process Implementation Report notes, this wording had not fully clarified or solved the issue of intermediate programmes shorter than the first cycle. More recently, ministers re-opened this question, taking a commitment to include short-cycle qualifications in the overarching framework of qualifications for the European Higher Education Area (QF-EHEA)⁽⁴⁹⁾.

The following analysis attempts to clarify the situation regarding short-cycle studies. As Figure 3.7 indicates, in 2016/17, short-cycle programmes considered as part of higher education exist in around half of all EHEA systems.

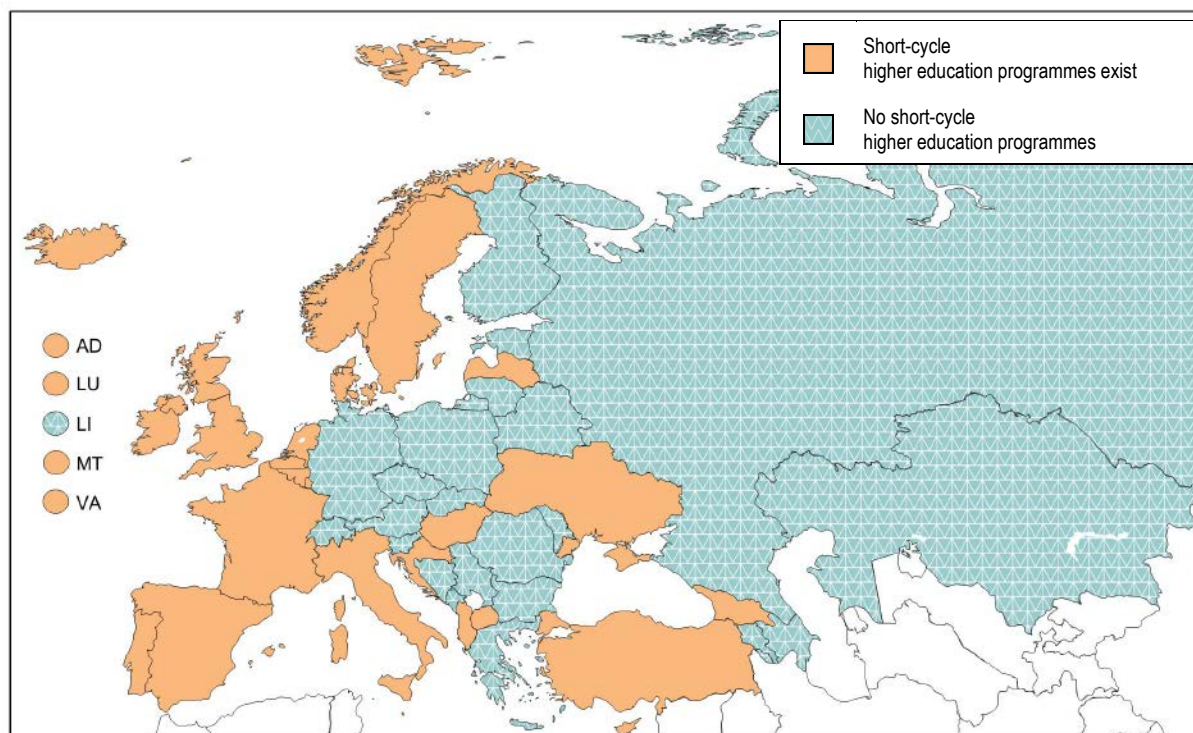
The comparison between Figures 3.7 and 3.1 suggests that the concept of 'short-cycle higher education' is significantly different to 'short-cycle tertiary education' (ISCED 5). Indeed, around a quarter of all EHEA countries do not report the existence of short-cycle higher education programmes (see Figure 3.7), but available Eurostat data indicate the presence of ISCED 5 programmes (see Figure 3.1). In some of these countries, ISCED 5 programmes involve only a small proportion of all ISCED 5-8 students (less than 0.1 % in Germany, 0.2 % in Poland, 0.3 % in the Czech Republic, 1.5 % in Slovakia, 3.5 % in Switzerland; see Figure 3.1), whereas in other instances the proportion is

⁽⁴⁸⁾ Realising the European Higher Education Area. Communiqué of the Conference of Ministers responsible for Higher Education, Berlin, 19 September 2003.

⁽⁴⁹⁾ Yerevan Communiqué, adopted at the EHEA Ministerial Conference in Yerevan, 14-15 May 2015.

substantial (37 % in Belarus, 28 % in Russia, around 20 % in Austria, Azerbaijan and Kazakhstan, 14 % in Moldova, 13 % in Slovenia, 8 % in Armenia) ⁽⁵⁰⁾.

Figure 3.7: Presence of short-cycle programmes considered as part of higher education, 2016/17



Source: BFUG data collection.

Notes:

The presence of short-cycle programmes considered as part of higher education refers to situations where national qualifications frameworks and/or top-level steering documents recognise the short cycle (or short-cycle qualifications) as part of the higher education system.

Short-cycle tertiary education (ISCED 5) not recognised as higher education commonly comprises vocational programmes. In Slovenia, for instance, tertiary education consists of short-cycle higher vocational education regulated by the Higher Vocational Education Act, and higher education regulated by the Higher Education Act. The latter act defines the concept of higher education as the first-, second- and third-cycle, which implies that short-cycle vocational higher education is not considered as part of the higher education system. A comparable situation can be observed in Switzerland, where ISCED 5 covers a few professional education and training programmes not regulated on the federal level that are outside the higher education three-cycle system. In Armenia and Moldova, ISCED 5 includes advanced vocational educational programmes that build on upper secondary education.

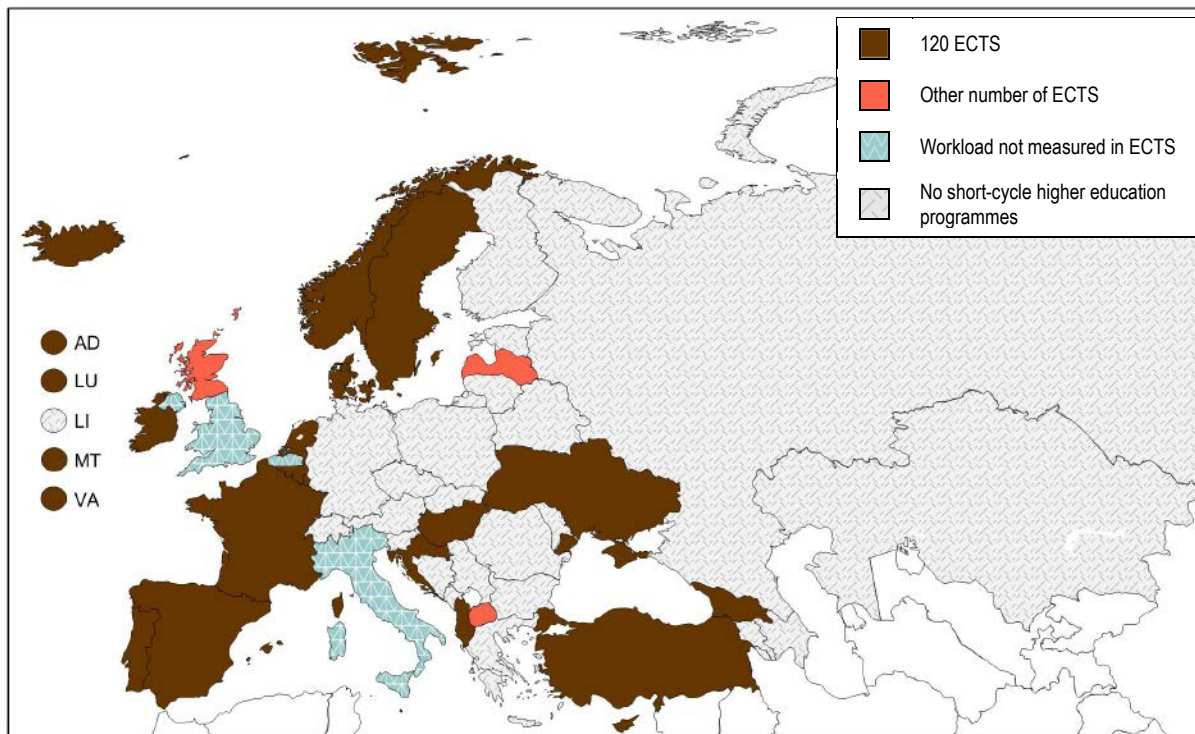
When not recognised as part of higher education, short-cycle tertiary education (ISCED 5) sometimes covers advanced years of upper secondary vocational training. This is the case in Austria, where ISCED 5 includes the fourth and the fifth year of upper secondary vocational studies. In the Czech Republic and Slovakia, the two last years of conservatories (i.e. professionally-oriented art education) are classified as ISCED 5, but are not recognised as higher education.

When considering short-cycle programmes regarded as higher education, top-level authorities were asked to indicate how the workload of these programmes is measured, and to quantify the most

⁽⁵⁰⁾ The discrepancy between the two data sets can partly be explained by wording of ISCED level 5, which can be associated with a wide range of programmes. More specifically, the classification states that '[p]rogrammes classified at ISCED level 5 may be referred to in many ways, for example: higher technical education, community college education, technician or advanced/higher vocational training, associate degree, bac+2' (UNESCO-UIS, OECD and Eurostat 2015, p. 73).

common workload. As Figure 3.8 shows, most countries with short-cycle higher education measure the workload of these programmes in ECTS, the most common workload corresponding to 120 credits. Other numbers of ECTS are reported only by Latvia (120 or 180 ECTS), the former Yugoslav Republic of Macedonia (60 or 120 ECTS) and the United Kingdom – Scotland (48, 60 or 120 ECTS, depending on the qualification). The Flemish Community of Belgium, Italy and the United Kingdom (England, Wales and Northern Ireland) refer to other measures than ECTS. For example, in the Flemish Community of Belgium, where short-cycle higher education corresponds to programmes provided by centres for adult education and some secondary schools, the workload is measured in hours, the minimum corresponding to 900 'teaching hours'. In Italy, the workload is measured in years/semesters and it corresponds to two years (four semesters). In the United Kingdom (England, Wales and Northern Ireland), where short-cycle higher education is provided by so called 'alternative providers' (e.g. private providers accredited by universities), the system is based on learning outcomes, rather than the workload expressed in credits or years/semesters. Yet, short-cycle higher education programmes commonly last two years, with some accelerated courses that are shorter.

Figure 3.8: Typical (most common) workload of short-cycle higher education programmes, 2016/17



Source: BFUG data collection.

Notes:

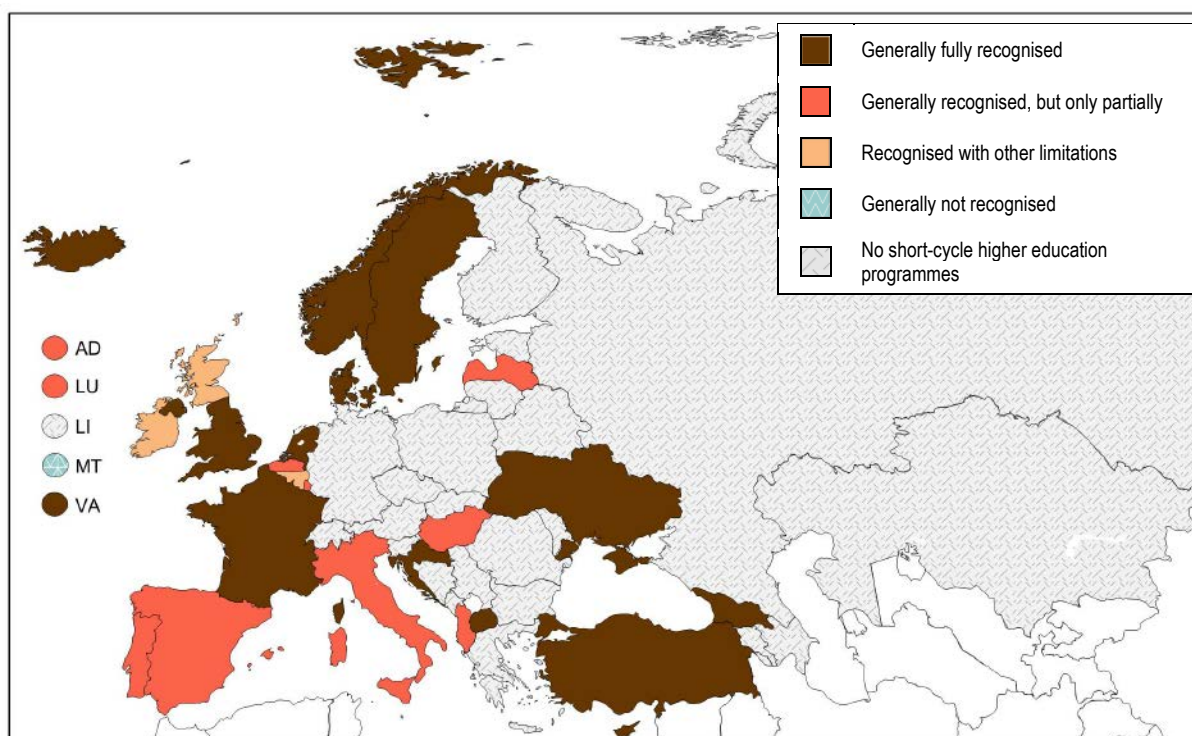
Countries expressing the workload of short-cycle higher education programmes in ECTS sometimes use also additional measurements (e.g. years, semesters). These are not considered in the figure.

According to the Bologna communiqués, countries that offer the short cycle should ensure its proper recognition, in particular when graduates progress to the next cycle of higher education (bachelor programmes). Countries where the short cycle does not exist are not obliged to introduce it, but they should establish mechanisms allowing the recognition of short-cycle qualifications from other EHEA systems. The use of ECTS, the Diploma Supplement, the use of learning outcomes and a system of quality assurance in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) are regarded as tools that can foster the recognition⁽⁵¹⁾.

⁽⁵¹⁾ Final report of the 2015-2018 BFUG Working Group on Fostering implementation of agreed key commitments.

As Figure 3.9 shows, among countries reporting the existence of short-cycle higher education, around half (14 systems) indicate that short-cycle programmes are generally fully recognised within first-cycle studies in the same field. In nine higher education systems, the recognition is only partial, and in a further three systems (Belgium – French Community, Ireland and the United Kingdom – Scotland), there are other limitations. More specifically, in the French Community of Belgium, short-cycle higher education – which corresponds to adult education programmes known as 'social promotion' (*enseignement supérieur de promotion sociale*) – may be recognised within professionally-oriented first-cycle programmes. However, it is up to higher education institutions to define the extent of the recognition. In the United Kingdom (Scotland), the recognition depends partly on the type of short-cycle degree. While some degree programmes at some universities accept Higher National Certificates (HNC) and Higher National Diplomas (HND) – i.e. two types of short-cycle qualifications – for advanced entry (ie entry during the programme), a number of programmes at some universities do not, and accept these only as an entry requirement for studies. Two additional short-cycle qualifications that exist in Scotland – Certificate of Higher Education (CertHE) and Diploma of Higher Education (DipHE) – may be used towards the future completion of first-cycle degrees (bachelors). In Ireland, the short cycle ('Higher Certificate') is commonly recognised within the first cycle in Institutes of Technology, but less so in universities. Malta is the only country reporting that short-cycle programmes are generally not recognised within first-cycle studies, meaning that short-cycle graduates are always expected to start their first cycle from the beginning.

Figure 3.9: Recognition of short-cycle higher education within first-cycle studies in the same field, 2016/17



Source: BFUG data collection.

Only a dozen countries were able to supply national statistics (including estimates) on the proportion of short-cycle graduates continuing their studies in the first cycle. The highest proportion – between 50 % and 74.9 % – is reported by Andorra, France and Portugal. In Cyprus, Denmark, Ukraine and the United Kingdom (Scotland), the proportion is situated between 25 % and 49.9 %; while in Hungary, Italy, Norway, Sweden and Turkey, only up to 25 % of short-cycle graduates continue their studies in the first cycle. Sweden in this context notes that short-cycle programmes – although generally fully recognised within first-cycle studies – are normally not used as the first step towards a bachelor degree.

The above data suggest different degrees of integration of short-cycle higher education within first-cycle studies. This may reflect the fact that the short cycle comprises a range of programmes that differ in terms of content, orientation and purpose – the aspect emphasised in the final report of the working group on Fostering implementation of agreed key commitments ⁽⁵²⁾, which recognises a huge diversity of short-cycle qualifications in terms of drivers, rationales and purposes. It is therefore difficult to establish an 'ideal' progression rate between short-cycle higher education and the first cycle, although, as the above report notes, it is necessary to avoid the short cycle becoming a dead end for students.

Finally, building on the analysis related to Figure 3.7, it would also be possible to enquire about the recognition of those ISCED 5 programmes (short-cycle tertiary education) that are not regarded as higher education. However, this aspect is not covered by this report.

3.1.1.3. Third-cycle programmes

In 2003, ministers responsible for higher education expanded the scope of their discussions to doctoral-degree programmes. Two years later, they adopted the overarching framework for qualifications in the EHEA, recognising doctoral programmes as the third cycle of higher education studies. However, while being part of the Bologna-degree structure, doctoral training differs from first- and second-cycle studies by its intensive research practice. For this reason, the third cycle is covered by specific policy guidelines known as 'Salzburg Principles' ⁽⁵³⁾ and 'Salzburg II Recommendations' (EUA, 2010), and doctoral candidates are widely recognised as early (or first stage) researchers (EUA, 2010; European Commission, 2011). Taking into account these specificities, the indicators that follow provide a comparative overview of doctoral training across the EHEA.

As discussed previously (see Figure 3.1), doctoral or equivalent programmes (ISCED 8) generally involve only a small proportion of all students, less than 5 % in most countries. The lowest share of doctoral candidates – below 1 % – is recorded in Bosnia and Herzegovina, Kazakhstan, the former Yugoslav Republic of Macedonia, Malta and Montenegro, while the highest – above 6 % – is observed in the Czech Republic, Germany, Finland, Liechtenstein, Luxembourg and Switzerland.

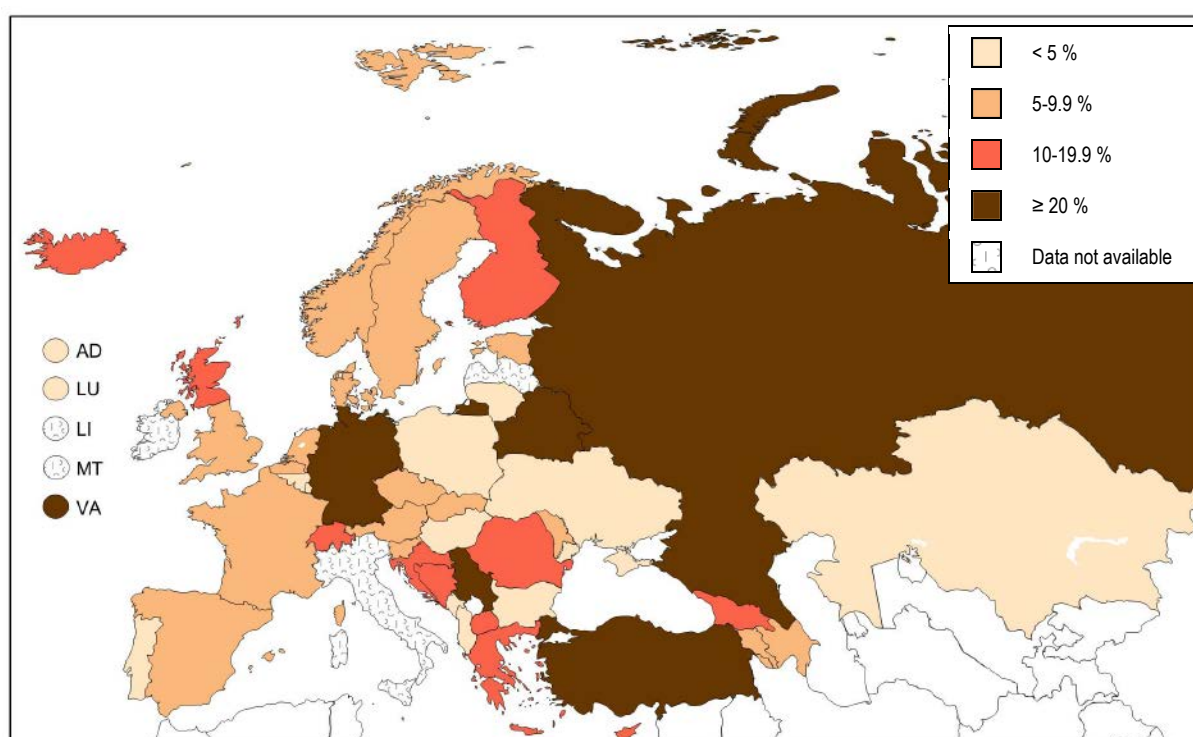
⁽⁵²⁾ Ibid.

⁽⁵³⁾ Bologna Seminar on 'Doctoral Programmes for the European Knowledge Society', Salzburg, 3-5 February 2005. Conclusions and Recommendations. [pdf] Available at: http://www.eua.be/Libraries/cde-website/Salzburg_Conclusions.pdf?sfvrsn=0 [Accessed 27 March 2018].

Using data provided by national authorities, Figure 3.10 looks at the proportion of second-cycle graduates eventually entering a third-cycle programme. The greatest movement – 20 % and above – is reported by Belarus, Germany, Russia, Serbia, Turkey (all between 20 % and 29.9 %) and the Holy See (30 % and above). In contrast, in 12 higher education systems (Albania, Andorra, Belgium – French Community, Bulgaria, Hungary, Kazakhstan, Lithuania, Luxembourg, Montenegro, Poland, Portugal and Ukraine), less than 5 % of second-cycle graduates eventually enter a doctoral-degree programme. In around half of all EHEA countries, the proportion is situated between 5 % and 20 %.

The comparison with the 2015 Bologna Process Implementation Report suggests a decreasing proportion of second-cycle graduates eventually entering a third-cycle programme. More specifically, the percentage has decreased in around a quarter of all EHEA countries, while it has increased only in a few countries. However, the reported changes are most often relatively minor, fluctuating between neighbouring categories of Figure 3.10. Moreover, data should be interpreted with caution, since countries commonly refer to estimates.

Figure 3.10: Proportion of second-cycle graduates eventually entering a third-cycle programme, 2016/17



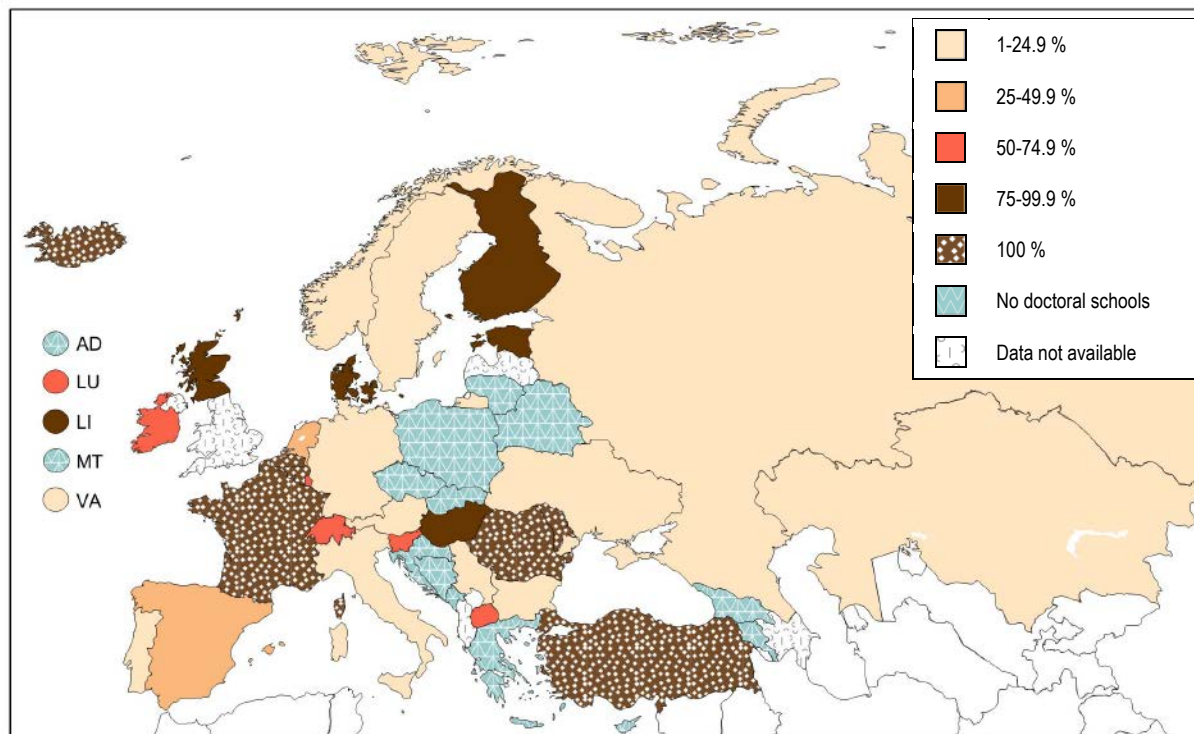
Source: BFUG data collection.

According to the 2005 Salzburg Principles, doctoral programmes 'should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts [...]. These range from graduate schools in major universities to international, national and regional collaboration between universities' ⁽⁵⁴⁾. When considering the evolution between 2005 and 2010, the Salzburg II Recommendations (EUA, 2010) noted wide-ranging reforms in the organisation of doctoral training across Europe, most notably the establishment of doctoral (or graduate) schools.

⁽⁵⁴⁾ Ibid.

In 2016/17, doctoral schools exist in around three-quarters of all EHEA countries (see Figure 3.11) – the situation comparable to the previous Bologna implementation mapping. However, in a number of higher education systems (12 systems), only up to 25 % of all doctoral candidates follow their programme within these structures. In contrast, in six countries (Belgium, France, Iceland, Moldova, Romania and Turkey), all doctoral candidates are integrated in a doctoral school.

Figure 3.11: Percentage of third-cycle candidates in doctoral schools, 2016/17



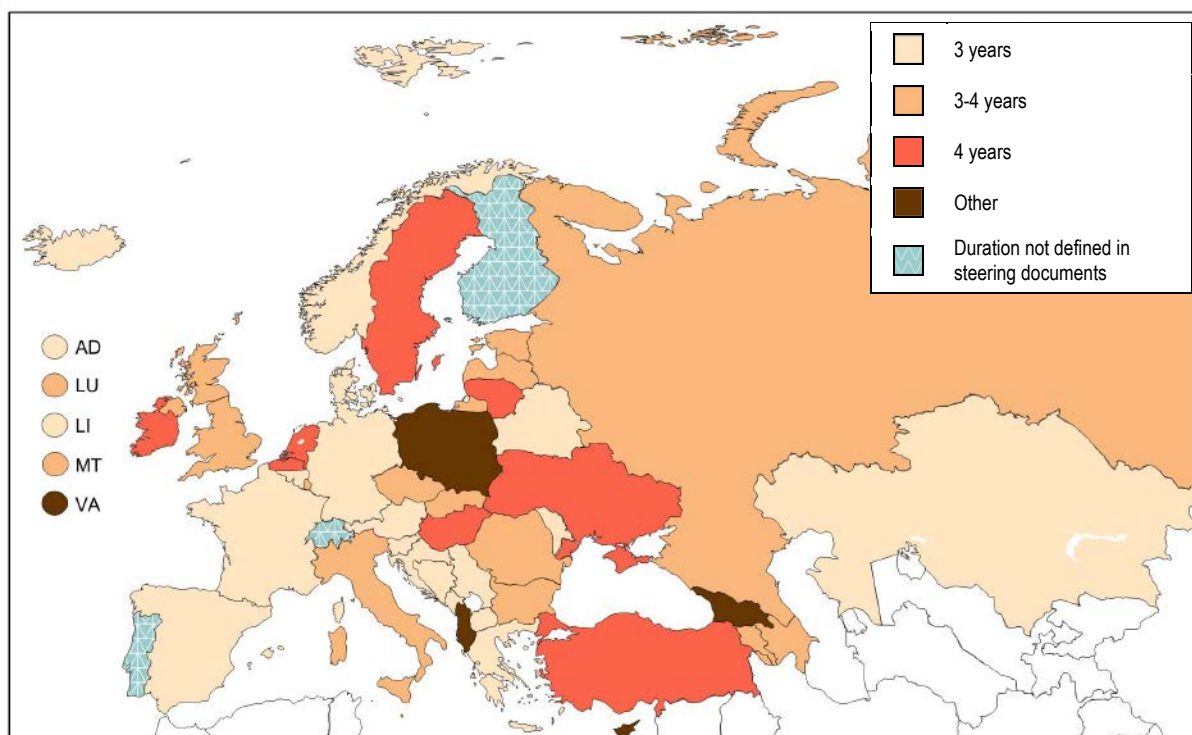
Source: BFUG data collection.

The Salzburg Principles⁽⁵⁵⁾ stipulate that doctoral programmes should operate within an appropriate duration, defined as three to four years full-time. Following this principle, Figure 3.12 depicts the duration of doctoral programmes as defined in top-level steering documents. It shows that virtually all EHEA countries define the duration of doctoral programmes, and that the foreseen duration generally complies with the Salzburg Principles. Indeed, in 20 EHEA systems, the duration is set to three years, in eight systems to four years, and in further 14 systems, regulations refer to a duration situated between three and four years. Among the latter group, the Czech Republic specifies that doctoral studies should last no less than three years and no more than four years. In Luxembourg, the doctorate should, in principle, be completed in three years but, if necessary, PhD candidates can apply for one supplementary year. In Malta, regulations refer to 'three to four years', specifying that the duration and the content of doctoral training should take into account the research project of each candidate. In Russia, the duration – that is situated between three and four years – depends on the field of study.

In a few countries, regulations either refer to a length situated outside the Salzburg Principles or they mention measures other than the length in years. In Poland, for instance, doctoral training should last between two and four years, while in Albania the range is situated between three and five years. In Cyprus and Georgia, doctoral programmes are defined in ECTS credits rather than years, their workload being set to no less than 180 credits. The Holy See indicates that the main measure that applies to doctoral training are learning outcomes, meaning that the doctorate should be conducted during an appropriate period of time, defined as usually no less than three years.

⁽⁵⁵⁾ Ibid.

Figure 3.12: Duration of full-time third-cycle programmes as defined in top-level steering documents, 2016/17



Source: BFUG data collection.

Finland, Portugal and Switzerland do not define the duration of doctoral studies in their steering documents. However, in Finland, there are ongoing discussions aiming to set the duration of doctoral training at four years. Portugal indicates that while not stipulated in steering documents, the most common duration is aligned with the Salzburg Principles. In Switzerland, each university is responsible to define autonomously the duration of doctoral training, but in general it lasts three to four years.

While the overall regulatory picture is almost perfectly aligned with the Salzburg Principles, countries' comments suggest that doctoral studies may exceed the expected duration. For instance, in the Netherlands, despite the formal duration being set to four years, doctoral training is commonly completed in no less than five years. In Finland, third-cycle studies generally take four to eight years to complete. In Croatia, regulations set the standard duration of the third cycle to three years, but individual doctoral candidates may complete their studies outside this time limit. In Spain, where the standard duration is also set to three years, candidates may be authorised to extend their programme for a further year, which could exceptionally be extended for another additional year.

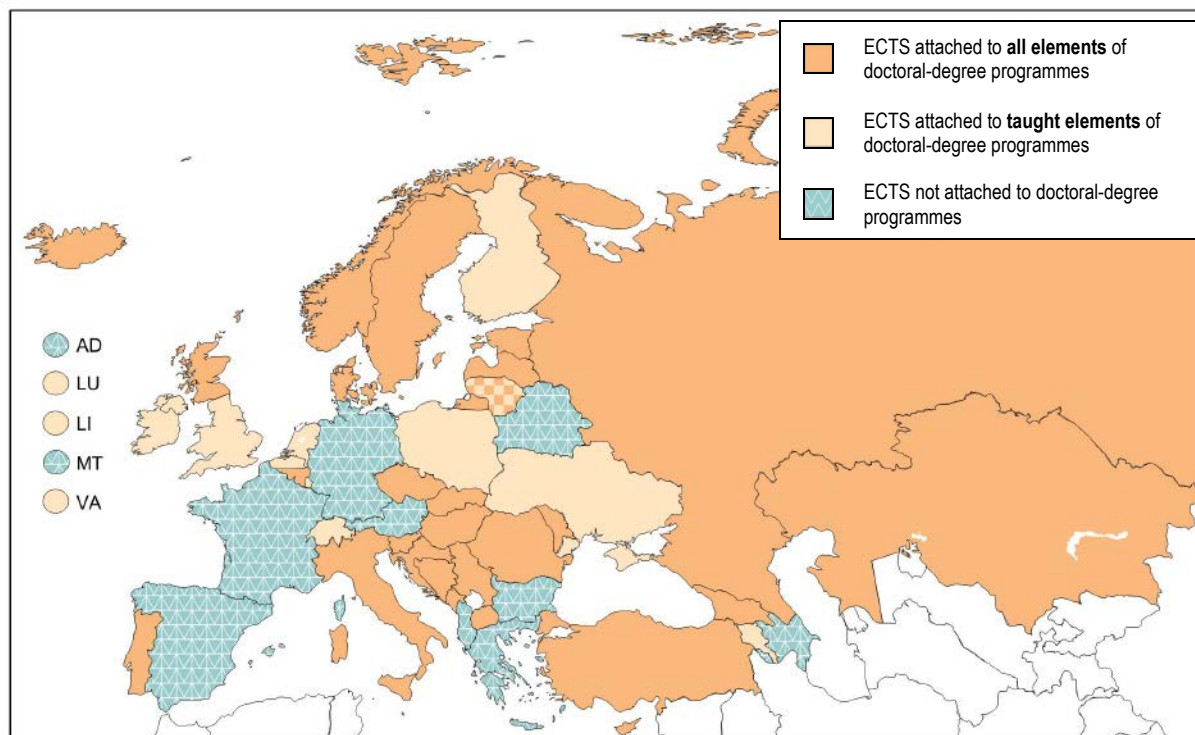
Looking at the implementation of ECTS, Figure 3.13 shows a relatively widespread use of credits in doctoral-degree programmes. During the academic year 2016/17, around half of all EHEA systems attach ECTS credits to all elements of doctoral programmes and around a quarter of the systems to taught elements only. In 11 higher education systems, ECTS credits are not used in doctoral programmes.

While credits are now linked to doctoral-degree programmes in most EHEA countries, they are used in many different ways. In some higher education systems, regulations define the exact amount of ECTS related to doctoral programmes. In Denmark, for instance, steering documents specify that three-year doctoral studies are equivalent to 180 ECTS and, out of this amount, 30 ECTS must be completed as taught courses. In Estonia, the overall workload of doctoral programmes corresponds to 240 ECTS; 60 ECTS covering taught courses and 180 ECTS the doctoral thesis. Estonia and Hungary also report the overall workload of 240 ECTS, but without quantifying taught elements. In Lithuania, two separate frameworks refer to this area: one covering research doctorates and another one covering art

doctorates. The first framework quantifies only taught elements (at least 30 credits), whereas the second refers to all elements (240 credits in total, including at least 40 credits completed as taught courses, and at least 80 credits for an internship and 80 credits for research). Ukraine, where ECTS credits cover taught elements only, refers to the amount situated between 30 and 60 ECTS. Moldova quantifies the overall workload of doctoral-degree programmes at 180 ECTS, whereas in Kazakhstan, regulations refer to no fewer than 216 credits. In Russia, steering documents stipulate that one academic year corresponds to 60 ECTS – the approach that applies to all study cycles, including doctoral programmes. This is similar to the approach used in Slovakia, where full-time third-cycle programmes include either 180 credits (if lasting three years) or 240 credits (if lasting four years).

A number of higher education systems use a flexible approach to ECTS in doctoral programmes. For example, in Finland, there are no regulations on the length or workload of third-cycle programmes, but ECTS credits commonly cover taught elements. In Croatia, the Czech Republic, Liechtenstein, Portugal and Romania, regulations do not have a prescriptive character regarding the use of ECTS in doctoral programmes. This means that higher education institutions can decide autonomously whether and to what extent they use ECTS. Among these countries, the Czech Republic indicates that credits are generally allocated to both research and taught elements, although there are ongoing discussions on the transformation of research activities into credits. In contrast, Romania reports that credits are not yet commonly used by universities and there is no general provision or practice specifying which parts of doctoral programmes (all elements or taught elements) ECTS can be used.

Figure 3.13: Use of ECTS in third-cycle programmes, 2016/17



Source: BFUG data collection.

Notes:

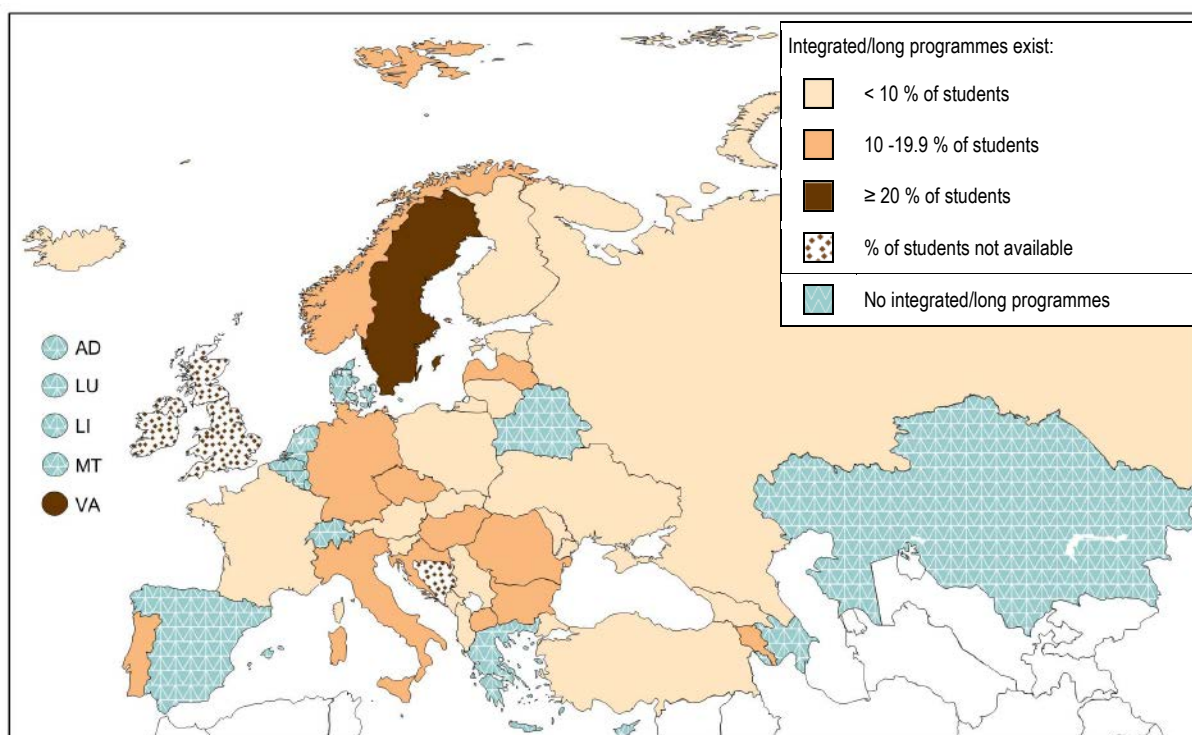
The figure primarily refers to the content of top-level regulations. In countries with no regulations on the use of ECTS in the third cycle, the figure takes into account common practice.

3.1.2. Integrated (long) programmes and programmes outside the Bologna-degree structure

After having examined programmes and degrees that comply with the Bologna-degree structure, this section looks at degrees and qualifications outside the Bologna framework.

Figure 3.14 depicts integrated/long programmes leading directly to a second-cycle degree. In 2016/17, these programmes exist in most EHEA systems; yet, they involve different proportions of students. In 17 systems, only up to 10 % of all first- and second-cycle students are enrolled in integrated/long programmes. Finland, Iceland, Moldova, Russia and Turkey report the lowest percentages (less than 5 %). In 12 systems, the proportion is situated between 10 % and 19.9 %. Sweden and the Holy See indicate the highest share of students in integrated/long programmes: 20 %, and 30 % and more, respectively.

Figure 3.14: Presence of integrated/long programmes leading to a second-cycle degree and the percentage of students in these programmes, 2016/17



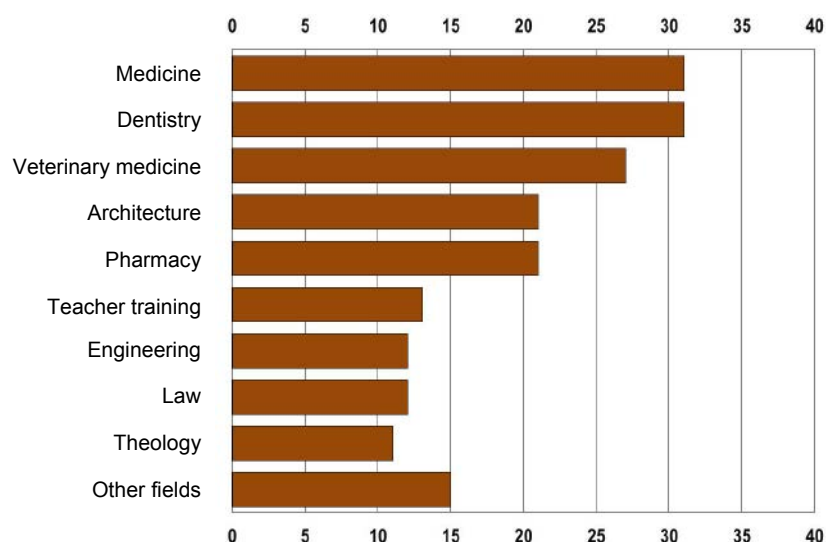
Source: BFUG data collection.

Notes:

Integrated/long programmes refer to programmes including both the first and the second cycle, and leading to a second-cycle qualification.

As Figure 3.15 shows, integrated/long programmes commonly exist in the field of medicine (reported by 31 systems out of 35 in which integrated programmes exist), dentistry (31 systems) and veterinary medicine (27 systems). These fields are followed by architecture and pharmacy (both 21 systems), teacher training (13 systems), engineering and law (both 12 systems), and theology (11 systems). Other reported fields (15 systems) include psychology, speech and language therapy, massage therapy, nursing and midwifery, fine arts, chemistry, physics, biology, mathematics, statistics, computer science, agriculture, horticulture, forestry, fish science, landscape architecture, and conservation and restoration of cultural heritage.

Figure 3.15: Number of higher education systems reporting integrated/long programmes in defined fields, 2016/17



Source: BFUG data collection.

Notes:

The figure is based on data supplied by 50 higher education systems.

There seems to be a close link between the number of fields reported by countries (see Figure 3.15) and the percentage of students in integrated/long programmes (see Figure 3.14). For example, Sweden, where the percentage of students in integrated programmes is among the highest (20 %), reports integrated programmes in all the fields depicted by Figure 3.15 except theology, and in a number of additional fields, including psychology, agriculture, horticulture, forestry and landscape architecture. Croatia, the Czech Republic, Germany, Italy, Lithuania, Norway and Portugal also report a substantial number of fields in which integrated programmes exist (all, or almost all fields depicted by Figure 3.15) and, at the same time, almost all these countries (except Lithuania) register a relatively higher proportion of students in integrated programmes.

Among 35 top-level authorities indicating the presence of integrated/long programmes, around one third report that all of these programmes were established prior to 2000 (i.e. prior to the Bologna Process), whereas another third indicate that some were established prior to 2000, while others after 2000. Representatives of the remaining systems specify that all integrated programmes were established after 2000, i.e. following the launch of the Bologna Process. However, in all the systems belonging to the latter group, programmes lasting five or six years existed before 2000, but after 2000 they were renewed, renamed and/or re-defined. For example, in Italy, long higher education programmes that existed prior to 2000 were defined in years (e.g. medical studies lasting six years), whereas now they are defined in both years and ECTS credits. In Serbia, medical studies (medicine, dentistry and pharmacy) used to last five or six years even before 2000, but they were recognised as 'undergraduate studies' rather than 'long/integrated studies'. A comparable situation can be observed in Armenia, where prior to the implementation of the Bologna-degree structure almost all higher education programmes were organised as single-level programmes lasting between five and seven years, but they were not referred to as 'long' or 'integrated' studies.

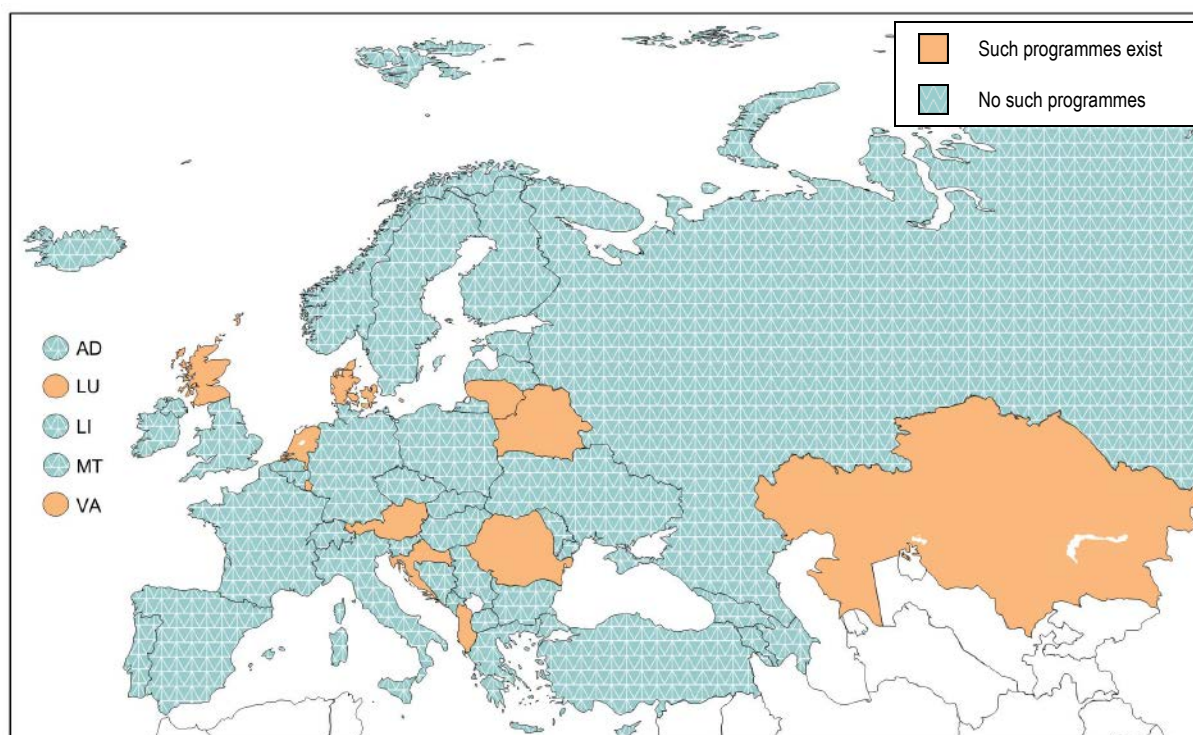
Commonly, top-level authorities justify the presence of integrated/long programmes by the Directive on regulated professions 2005/36/EC⁽⁵⁶⁾ that defines qualification requirements for specific professions (medicine, dentistry, veterinary medicine, pharmacy and architecture), including the duration of training. Beyond regulatory motives, a range of other reasons are used to explain the

⁽⁵⁶⁾ Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications. OJ L 255, 30.9.2005.

existence of integrated programmes. For example, Croatia indicates that some integrated programmes were established taking into account the fact that the majority of students, for various reasons, wished to continue their studies immediately after having finished the first cycle. Similarly Croatia and the United Kingdom (England, Wales and Northern Ireland) also refer to student choice and demand. Some other countries indicate quality aspects, stating that integrated/long programmes are a necessity to achieve sufficient expertise in some specific fields. Historical motives and traditions also appear among reasons used to explain the continued existence of integrated/long programmes.

Figure 3.16 shows that in around a quarter of all EHEA systems, there are programmes outside the Bologna-degree structure other than integrated/long programmes. The nature of these programmes varies from one higher education system to another: they are linked to various degree levels, and they may, or may not, be included in national qualifications frameworks.

Figure 3.16: Programmes outside the Bologna-degree structure (other than integrated/long programmes), 2016/17



Source: BFUG data collection.

Notes:

Within the Bologna Process, ministers committed themselves to implementing the three-cycle degree system, where first-cycle degrees (awarded after completion of higher education programmes lasting a minimum of three years) should give access, in the sense of the Lisbon Recognition Convention⁽⁵⁷⁾, to second-cycle programmes. Second-cycle degrees should give access to doctoral studies (the third cycle). Within the three-cycle degree system, ministers recognised the possibility of intermediate qualifications (the short cycle) linked to the first cycle.

When referring to programmes outside the Bologna-degree structure, the figure refers to programmes that do not fully comply with the above ministerial engagements. Integrated/long programmes, which can also be seen as programmes outside the Bologna-degree structure, are covered by Figure 3.14.

In some higher education systems, programmes outside the Bologna-degree structure are closely related to first-cycle studies. For example, in Romania, there are higher education programmes that require a bachelor degree for entry, but do not lead to a second-cycle qualification. These programmes last between six months and one year, and lead to a qualification situated at level 6 of the national qualifications framework, i.e. the level at which the bachelor degree is positioned. Ireland offers a 'Higher Diploma', which is a qualification building on the bachelor degree. The qualification is

⁽⁵⁷⁾ Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165.

normally awarded after a one-year programme (60 ECTS credits) and its completion is situated at the same level as first-cycle studies. In Luxembourg, in addition to short-cycle higher education that is included in the national qualifications framework, there are also programmes leading to a 'general higher education studies diploma' (*diplôme d'études supérieures générales*) that comprise 120 ECTS and last four semesters. The Netherlands refers to a two-year 'associate-degree programme', which used to be part of bachelor degree at universities of applied sciences, but is now intended to become an independent programme.

There are also higher education systems, where programmes outside the Bologna-degree structure are closely linked to second- or third-cycle studies. For example, Ireland offers the 'Postgraduate Diploma' (60 ECTS credits), which generally requires a bachelor degree for entry, and which is seen as an intermediate qualification within the second cycle. In Albania, there are professional masters that are regarded as second-cycle programmes; yet, their completion does not open access to the third cycle. There are also so called 'Executive Masters', which are building on a master degree and are considered as third-cycle studies (other than doctoral studies). Another type of programme considered as the third cycle (but not a doctoral degree) is the so-called 'long-term specialisation', which corresponds to at least 120 ECTS or at least two years of study. Croatia also reports the existence of postgraduate programmes that require a second-cycle qualification for entry, but do not lead to a doctoral degree. These programmes last between one and two years, and the qualification they lead to is situated at level 7 of the national qualifications framework (level 7 of the EQF and level 2 of the QF-EHEA). The United Kingdom (Scotland) refers to postgraduate certificates of 30 ECTS at level 11 or above of the Scottish Credit and Qualifications Framework (SCQF). Belarus reports programmes lasting up to three years that lead to an academic title 'Doctor of Sciences'; the title building on the degree 'Candidate of Sciences', which is PhD-equivalent.

Further examples of programmes outside the Bologna-degree structure are provided by Lithuania and Kazakhstan. Lithuania refers to professional studies in medical residency lasting two to six years, as well as pedagogical studies with a volume of 60 ECTS. In Kazakhstan, in parallel to undergraduate programmes, there are programmes of 'higher special education' (in medical fields) that generally last five years. These are comparable to bachelor level (i.e. they do not comply with the definition of integrated/long programmes), and are classified at level 6 of ISCED and the NQF.

While Figure 3.16 does not quantify the number or proportion of students in programmes outside the Bologna-degree structure (other than integrated/long programmes), this aspect ought to be taken into consideration. In Denmark, for instance, the provision depicted on the figure refers to two programmes with very few students: a four-year programme in the area of film production with approximately 30 students and a two-year postgraduate diploma in music with approximately 20 students. In other words, the number of students outside the Bologna-degree structure might be negligible in some countries, whereas more substantial in other countries.

When providing reasons for the existence of programmes outside the Bologna-degree structure, countries refer, for instance, to labour market needs (Albania, Belarus and Romania), professional regulations and registration requirements (the Holy See and the United Kingdom – Scotland) and requests coming from learners (Croatia). Luxembourg indicates more specific reasons for the existence of the 'general higher education studies diploma' (*diplôme d'études supérieures générales*), namely the fact that this qualification prepares for the admission exams to some prestigious higher education institutions in France.

3.2. Transparency of qualifications: Diploma Supplement and national qualifications frameworks

After having outlined the implementation of the Bologna-degree structure, this section focuses on two Bologna transparency tools: the Diploma Supplement and national qualifications frameworks. The third key transparency instrument – European Credit Transfer and Accumulation System (ECTS) – is discussed in Chapter 2 (Section 2.2).

3.2.1. Diploma Supplement

The Diploma Supplement was developed between 1996 and 1998 by a working group sponsored by the Council of Europe, the European Commission and UNESCO-CEPES. In essence, the Diploma Supplement is a document attached to a higher education diploma, providing a detailed description of study components and learning outcomes achieved by its holder. The aim is to help higher education institutions, employers, recognition centres as well as other stakeholders to easily understand graduates' skills and competences.

The Diploma Supplement is an integral part of several initiatives in the field of higher education internationalisation and recognition of qualifications. The first of them – the 1997 Lisbon Recognition Convention⁽⁵⁸⁾ –, calls upon signatory countries to promote the Diploma Supplement or any equivalent document through national information centres or otherwise. The second initiative – the Bologna Process – made the first reference to the Diploma Supplement already in 1999, when higher education ministers agreed to adopt a system of easily readable and comparable degrees, also through the implementation of the Diploma Supplement, in order to promote European citizens employability and the international competitiveness of the European higher education system⁽⁵⁹⁾. In 2003, the ministers agreed that every student graduating as from 2005 should receive the Diploma Supplement automatically and free of charge, and that the document should be issued in a widely spoken European language⁽⁶⁰⁾. Finally, the Diploma Supplement is presented as one of the five Europass transparency tools promoted by the European Commission⁽⁶¹⁾.

The 2015 Bologna Process Implementation Report acknowledged improvements in the implementation of the Diploma Supplement compared to 2012. However, it also noticed that a number of countries have failed to fulfil all ministerial engagements. Building on these findings, this section looks at progress since the last Bologna mapping.

Figure 3.17 depicts the four main ministerial engagements related to the Diploma Supplement. These are examined in relation to the first and second cycle, whereas the situation of short- and third-cycle graduates is analysed further in the text (see Figures 3.19 and 3.20).

In 2016/17, in most EHEA systems (44 out of 50), all first- and second-cycle graduates receive the Diploma Supplement. It is still not the case in Belarus, France, Greece, Ireland, Russia and the United Kingdom (England, Wales and Northern Ireland). Among these countries, Belarus is the only one that has not yet implemented the Diploma Supplement, whereas in all other countries, the Diploma Supplement is commonly issued, but not to all graduates. This generally reflects some degree of institutional autonomy. For example, Greece reports that institutions can decide whether and to what

⁽⁵⁸⁾ Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165.

⁽⁵⁹⁾ The Bologna Declaration of 19 June 1999.

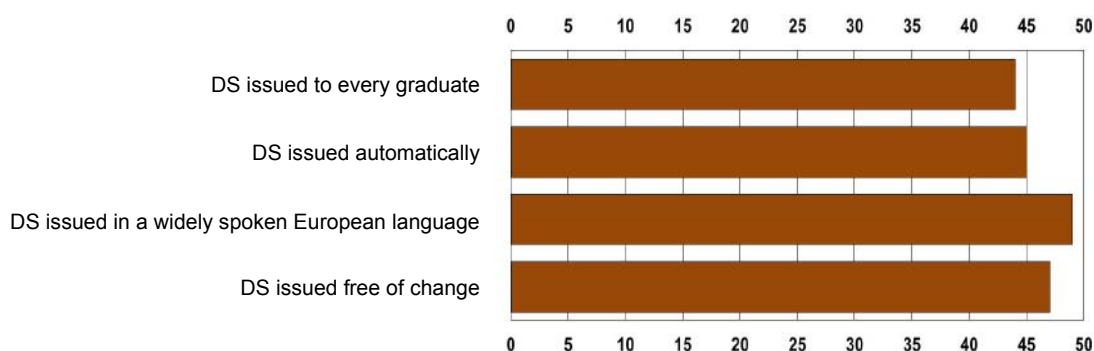
⁽⁶⁰⁾ Realising the European Higher Education Area. Communiqué of the Conference of Ministers responsible for Higher Education, Berlin, 19 September 2003.

⁽⁶¹⁾ Decision No 2241/2004/EC of the European Parliament and of the Council of 15 December 2004 on a single Community framework for the transparency of qualifications and competences (Europass).

extent they will provide graduates with the Diploma Supplement and, so far, not all of them do so. In Russia, there are two variants of the Diploma Supplement: national and European. The first one is compulsory and is issued to all graduates, whereas the European one is only delivered if internal institutional procedures foresee it. In the United Kingdom (England, Wales and Northern Ireland), some institutions issue the Diploma Supplement, others deliver the Higher Education Achievement Report (HEAR) – which is based upon and virtually reflects the Diploma Supplement –, while some others provide graduates only with a transcript. In France, the 2014 regulatory framework requires higher education institutions to deliver the Diploma Supplement to all first- and second-cycle graduates, but the practice is not yet fully aligned with this obligation. In Ireland, higher education institutions should issue the Diploma Supplement, but there are some atypical programmes (e.g. integrated programmes) for which the Diploma Supplement is not issued.

Closely related to the above aspect is the automatic issuing of the Diploma Supplement. While in most higher education systems (45 systems) the document is issued automatically (in all or some cases), in four systems – Azerbaijan, Bulgaria, Kazakhstan and Spain⁽⁶²⁾ –, graduates are expected to request it. Spain has a specific position in this group: graduates receive their Diploma Supplement automatically with the diploma, but the diploma itself is not issued automatically as graduates have to request it.

Figure 3.17: Number of higher education systems issuing the Diploma Supplement according to the agreed principles, first and second cycle, 2016/17



Source: BFUG data collection.

Notes:

The figure is based on data supplied by 50 higher education systems.

In all EHEA systems (except Belarus that has not yet implemented the Diploma Supplement), the Diploma Supplement is issued in a widely spoken European language⁽⁶³⁾. In most cases, it is issued directly in the country language and in English. In some countries, however, the version in a widely spoken language is issued only upon request (Estonia, Latvia, the former Yugoslav Republic of Macedonia, Poland, Serbia and Slovakia).

The Diploma Supplement is generally issued free of charge. Montenegro and Serbia are the only countries where graduates are commonly expected to pay a fee. More specifically, at the University of Montenegro – which is the biggest public university in Montenegro with around 85 % of the total student population –, the amount is set at 15 euros. In Serbia, the Diploma Supplement is always issued together with the diploma, and the price for these documents is around 40 euros.

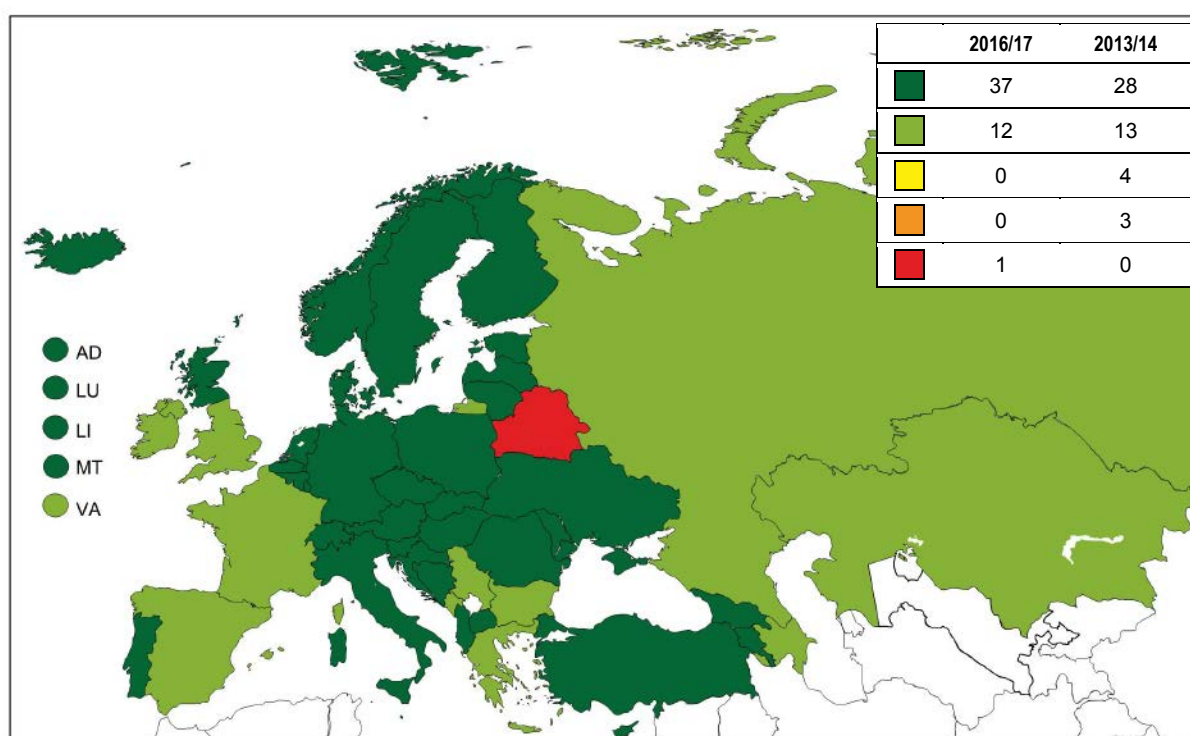
⁽⁶²⁾ Belarus is not considered, since it has not yet implemented the Diploma Supplement.

⁽⁶³⁾ The 2003 Berlin Communiqué does not provide a definition of the concept of 'a widely spoken European language'. However, according to the Eurobarometer survey (European Commission, 2012), when the mother tongue is considered, German is the most widely spoken language, with 16 % of Europeans saying it is their first language, followed by Italian and English (13 % each), French (12 %), then Spanish and Polish (8 % each). Regarding foreign languages, the five most widely spoken foreign languages are English (38 %), French (12 %), German (11 %), Spanish (7 %) and Russian (5 %). These languages can therefore be seen as 'widely spoken European languages'.

When the Diploma Supplement is issued free of charge, fees might still apply to services going beyond the standard provision. For example, in Slovenia, the Diploma Supplement is issued for free in Slovenian language and in one of the official EU languages, but for a fee in a second official EU language or a non-EU language. In Slovakia, the version in the official language and English (if requested in advance) is issued free of charge, whereas a foreign-language version other than English is issued for a fee. In Russia, the Diploma Supplement in the Russian language and according to the officially established Russian format is always issued free of charge, while the fee for the European Diploma Supplement in English (or another foreign language) remains at the discretion of higher education institutions. In Ireland, Diploma Supplements requiring an additional administrative workload may be linked to fees, while in Hungary, the duplicate is always issued for a fee.

All the above elements are brought together in the Scorecard indicator n°2 on the implementation of the Diploma Supplement (see Figure 3.18).

**Figure 3.18: Scorecard indicator n°2:
Stage of implementation of the Diploma Supplement, 2016/17**



Source: BFUG data collection.

Scorecard categories

Dark Green	Diploma Supplement in the EU/CoE/UNESCO Diploma Supplement format is issued to first- and second-cycle graduates: <ul style="list-style-type: none"> ○ to every graduate ○ automatically ○ in a widely spoken European language ○ free of charge.
Light Green	Three of the above criteria are met.
Yellow	Two of the above criteria are met.
Orange	Only one criterion is met.
Red	None of the above criteria is met.

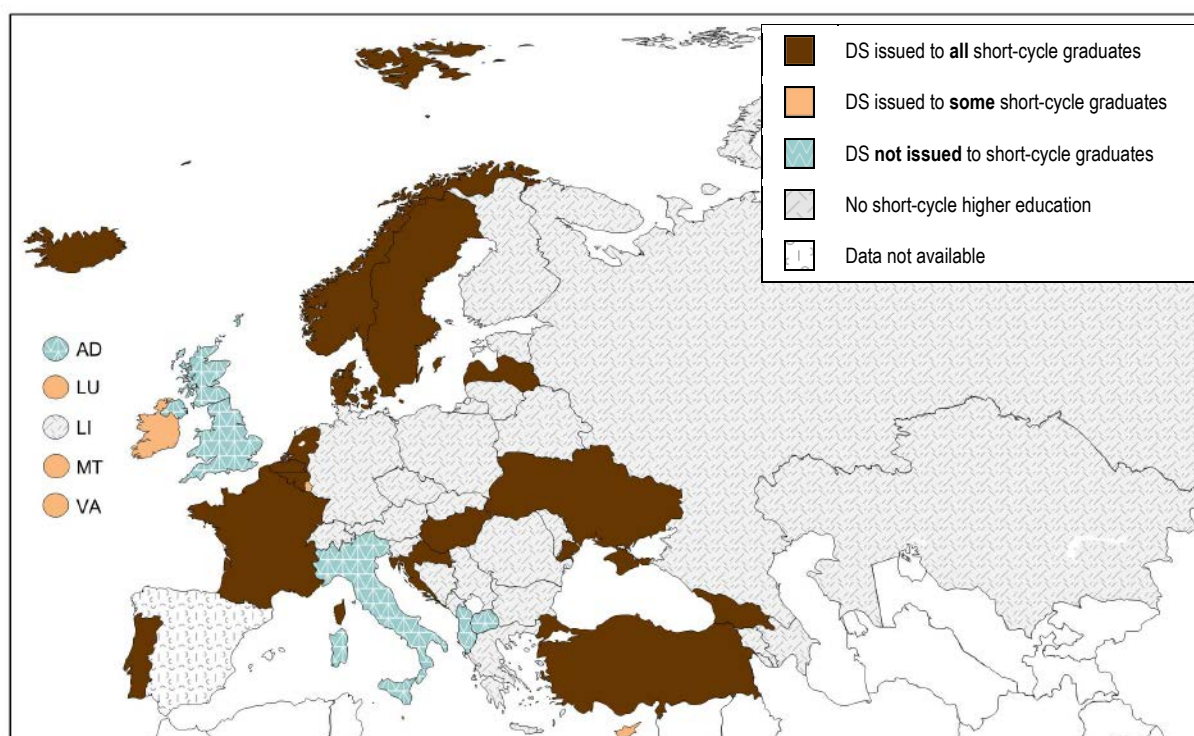
The indicator shows that most EHEA countries now comply with all ministerial engagements, i.e. the Diploma Supplement is issued to all first- and second-cycle graduates, automatically, in a widely spoken European language and free of charge (dark green). Twelve countries do not comply with one of these aspects (light green), whereas Belarus has not yet introduced the Diploma Supplement (red). Overall, the indicator points to progress in the implementation of the Diploma Supplement since 2015.

After having examined the implementation of the Diploma Supplement in the first and second cycle, the two indicators that follow look at its use in short- and third-cycle programmes.

As discussed previously (see Figure 3.7 and related analysis), short-cycle programmes regarded as higher education exist only in a limited number of EHEA countries. In most of them, the Diploma Supplement is issued to all short-cycle graduates (see Figure 3.19). Commonly, graduates receive it under conditions that are comparable to the first and second cycle, i.e. automatically, free of charge and in a widely spoken language. In five higher education systems, only some short-cycle graduates receive the Diploma Supplement (Cyprus, the Holy See, Ireland, Luxembourg and Malta), whereas in some other systems (Albania, Andorra, Italy, the former Yugoslav Republic of Macedonia and the United Kingdom), short-cycle graduates are not provided with the Diploma Supplement. The comparison between the scorecard indicator (see Figure 3.18) and Figure 3.19 suggests that the Diploma Supplement is less common in the short cycle compared to the first and second cycles.

It is noteworthy that the Diploma Supplement may be issued even in cases where short-cycle tertiary education programmes (ISCED 5) are not recognised as part of the higher education system⁽⁶⁴⁾. This is the case in Slovenia, where all graduates of short-cycle vocational higher education receive the Diploma Supplement, even though this sector is not regarded as part of higher education.

Figure 3.19: Issuing the Diploma Supplement to graduates in short-cycle higher education, 2016/17

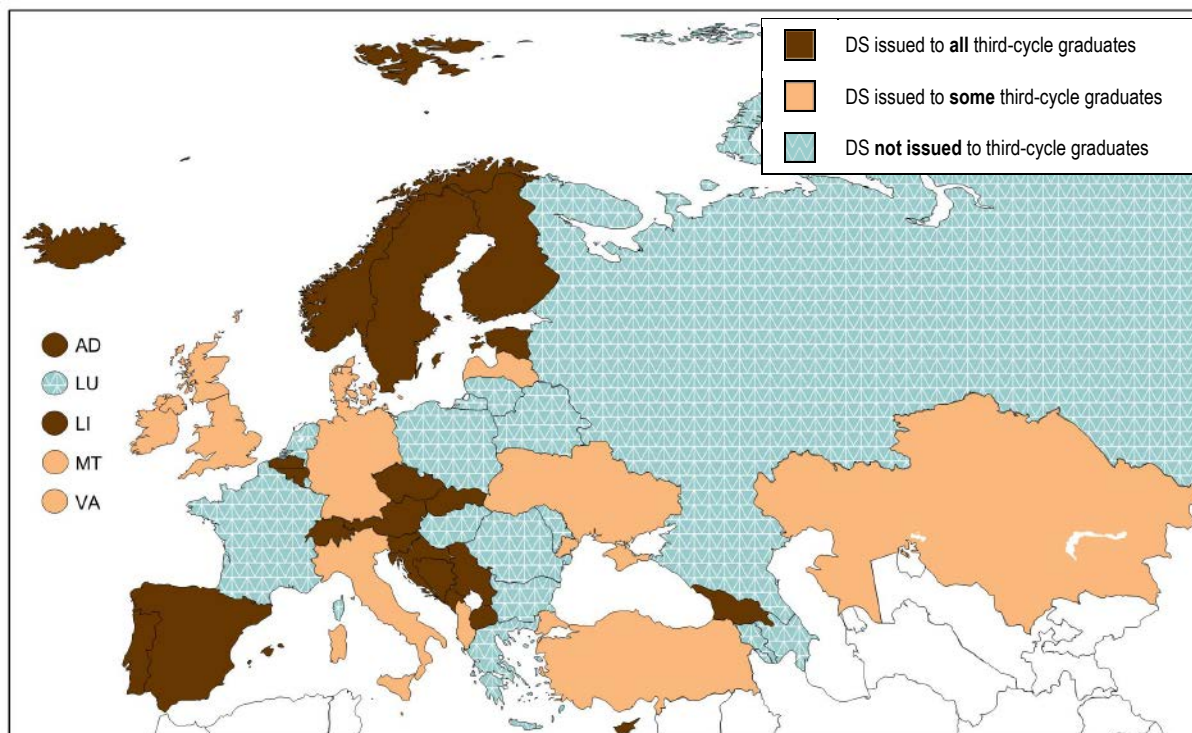


Source: BFUG data collection.

Regarding the third cycle, the Diploma Supplement is issued to all graduates in 23 higher education systems, to some graduates in 13 systems and it is not issued in 14 systems. In other words, in 2016/17, the Diploma Supplement is far from being the norm in the third cycle. This is comparable to the situation outlined in the 2015 Bologna Process Implementation Report.

⁽⁶⁴⁾ For more details on these programmes, see the analysis related to Figure 3.7.

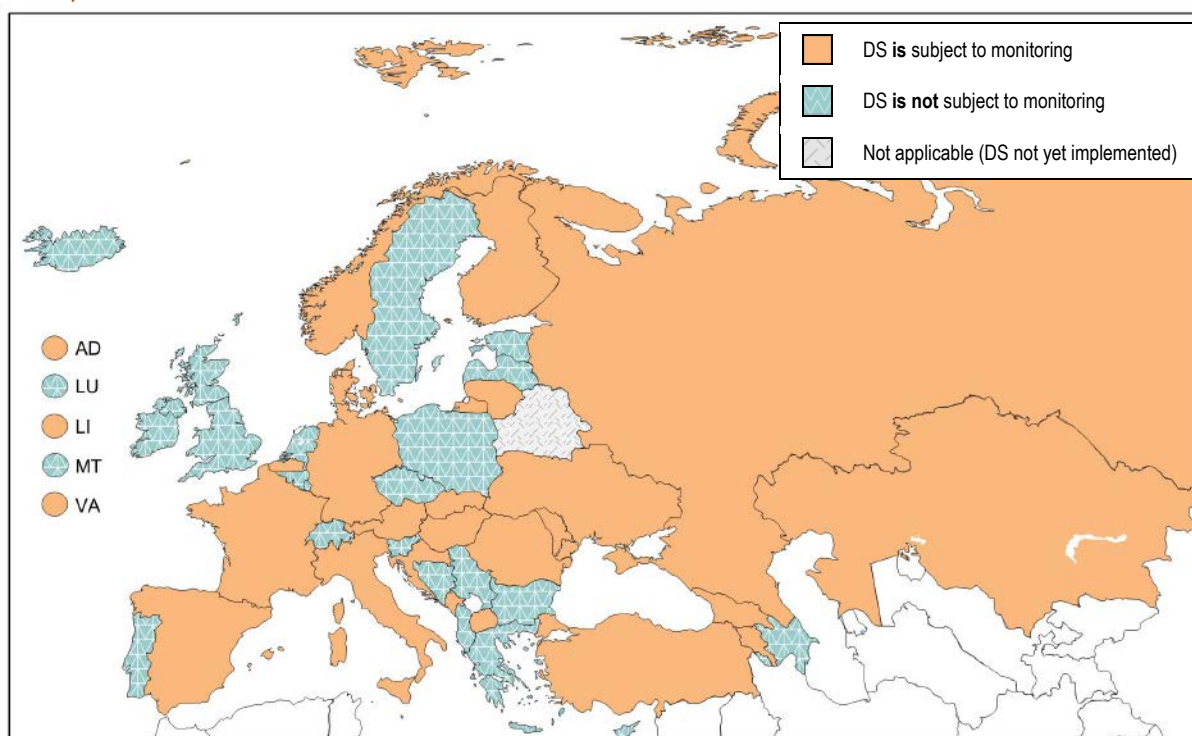
Figure 3.20: Issuing the Diploma Supplement to third-cycle graduates, 2016/17



Source: BFUG data collection.

There has been a continuous move towards the monitoring of the implementation of the Diploma Supplement. More specifically, in 2012, only seven higher education systems reported studies to monitor how higher education institutions use the Diploma Supplement, whereas there were 14 such systems in 2015. In 2016/17, 26 higher education systems indicate that top-level authorities or their mandated bodies monitor the implementation of the Diploma Supplement (see Figure 3.21).

Figure 3.21: Monitoring of the implementation of the Diploma Supplement by top-level authorities or their mandated bodies, 2016/17



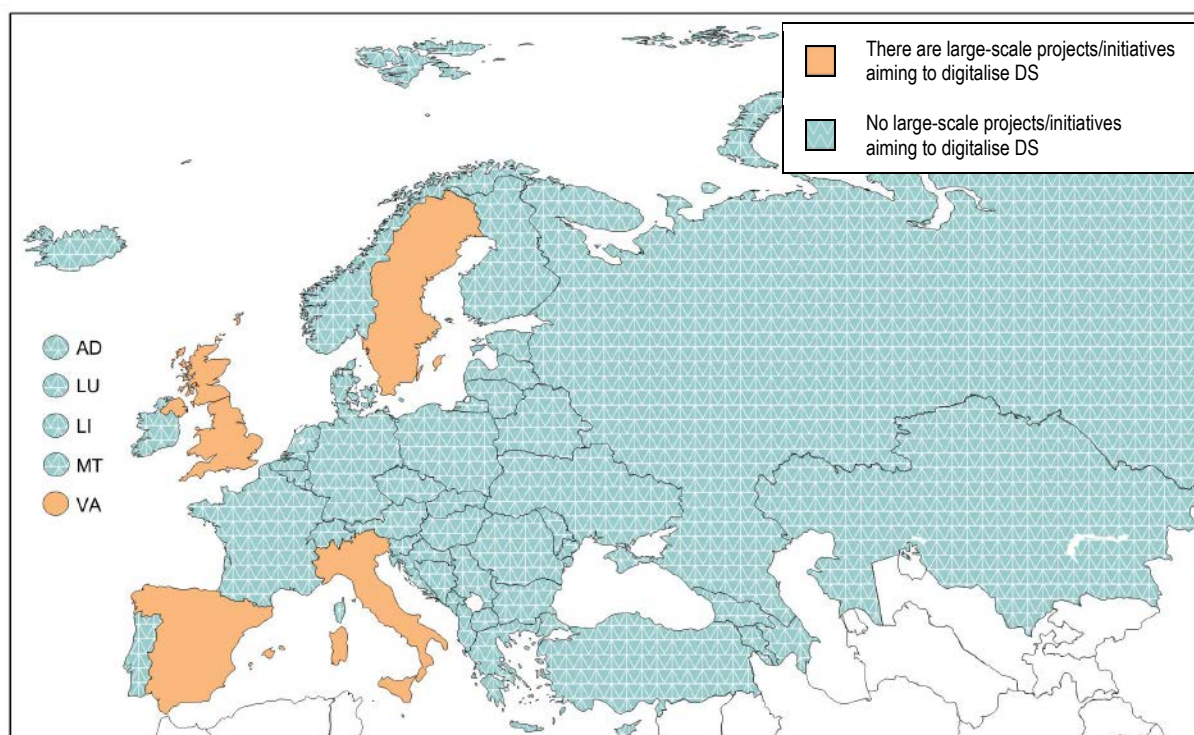
Source: BFUG data collection.

The monitoring is conducted by a range of organisations, most commonly ministries, but also quality assurance agencies, inspectorates or other bodies and NGOs responsible for the supervision of higher education.

Another question that can be raised in relation to the Diploma Supplement is its digitalisation. Indeed, it can be argued that through digitalisation the Diploma Supplement can be brought to today's technological standards, becoming more secure and easier to verify, and adding more flexibility in presenting and using the data it contains. However, as a recent study addressing this theme highlights, 'so far the DS remained mainly a paper document with only a small margin of higher education institutions issuing it in any digital format' (European Commission 2017a, p. 6). To progress towards digitalisation of the Diploma Supplement, the aforementioned study proposes four different technical solutions, ranging from a baseline scenario to more elaborated options. The study also offers mapping of different digitalisation initiatives across and outside Europe, pointing out that this theme is understood differently not only across countries, but also from one higher education institution to another.

Within the BFUG data collection, countries were asked to indicate the presence of large-scale initiatives aiming to digitalise the Diploma Supplement. As Figure 3.22 shows, these initiatives are scarce, and reported only by a few countries.

Figure 3.22: Presence of large-scale projects/initiatives aiming to digitalise the Diploma Supplement, 2016/17



Source: BFUG data collection.

Notes:

When referring to 'large-scale projects/initiatives', the figure refers to projects/initiatives that operate throughout the whole country or a significant geographical area rather than being restricted to a particular institution or geographical location.

Among them, the United Kingdom refers to an electronic Higher Education Achievement Report (HEAR)/Diploma Supplement (DS) that has been developed and implemented by a number of universities. Sweden is developing a new national student records system ('Ladok 3') that will be used by almost all Swedish higher education institutions. Within this system, degrees will be issued digitally,

through a certification by the decision-maker, and, simultaneously, the Diploma Supplement will be issued through the same certification ⁽⁶⁵⁾.

There are also large-scale initiatives that have a preparatory character. For example, in Italy, since the academic year 2014/15, some universities take part in a national project aiming to digitalise the Diploma Supplement. In Spain, the Ministry of Education, Culture and Sports has set up a technical working group examining different possibilities for digitalisation of the Diploma Supplement. The Holy See refers to an internal project at ministerial level, analysing best practices and developing a centralised database for issuing the Diploma Supplement.

3.2.2. National qualifications frameworks (NQFs)

While the purpose of the Diploma Supplement is to provide more transparency on the content of individual higher education qualifications, qualifications frameworks promote the readability and comparability of qualifications within and across countries. This is possible as qualifications frameworks are able to link together many of the structural tools – learning outcomes, credit systems, degree structures and quality assurance, for example – that play an important role in increasing the transparency of qualifications systems.

Qualifications frameworks have been on the policy agenda of the Bologna Process since 2001. In 2005 in Bergen, ministers of higher education adopted the overarching Framework of Qualifications for the European Higher Education Area (QF-EHEA), committed themselves to developing national qualifications frameworks (NQFs) for higher education and self-certifying the compatibility of their national qualifications frameworks to the QF-EHEA by 2010. Few countries met the 2010 milestone, and only about a half of the participating countries self-certified to the overarching QF-EHEA by the 2015 ministerial conference in Yerevan. For this reason, ministers have reiterated their call for increased efforts in the development and implementation of national qualifications frameworks as one of the key commitments in the Bologna Process. This part of the report will thus discuss recent developments in the field of NQFs, and how NQFs are used by national authorities, higher education institutions and other stakeholders at national level.

The QF-EHEA comprises three cycles and the short cycle within the first cycle (see Section 3.1), generic descriptors for each cycle defined in terms of learning outcomes, and ECTS credit ranges for the first and second cycles. National qualifications frameworks for higher education, which are built to be compatible with the QF-EHEA, provide information about qualifications in terms of their level (again structured in three cycles and the short cycle within the first cycle, where relevant), learning outcomes, student workload, and they indicate possible progression routes. Every qualification included in a national qualifications framework needs to meet these criteria and be supported by quality assurance.

The QF-EHEA is compatible with the European Qualifications Framework for lifelong learning (EQF) ⁽⁶⁶⁾. The EQF is a European reference framework for qualifications at all levels of education (ISCED 0-ISCED 8) and all types of education (general or professional) and acquired through different learning contexts (formal, non-formal and informal). The EQF is composed of eight common European reference levels, which are also described in terms of learning outcomes. Thanks to the compatibility between the QF-EHEA and the EQF, 35 of the 39 countries participating in both European meta-frameworks have developed or are developing national qualifications frameworks for lifelong learning ⁽⁶⁷⁾ and have related or are planning to relate these to both European overarching

⁽⁶⁵⁾ For more details on the project, see: <https://ladok.se/nya-ladok/detta-ar-ladok> [Accessed 27 February 2018].

⁽⁶⁶⁾ Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning (2008/C 111/01), 06.05.2008, p. 1. <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32008H0506%2801%29>

⁽⁶⁷⁾ NQFs for lifelong learning usually include all levels and kinds of qualifications, and in most cases incorporate national qualifications frameworks for higher education.

frameworks. By the end of 2016, 17 countries presented a joint QF-EHEA self-certification and EQF referencing report (Cedefop, 2016). This coordination effort ultimately should benefit learners in navigating their education path across levels and sectors of education in Europe.

3.2.2.1. Development of national qualifications frameworks

In order to guide and monitor the development and implementation of national qualifications frameworks for higher education, 10 typical implementation steps were identified by the EHEA Working Group on Qualifications Frameworks in 2007 (Bologna Working Party, 2007). Since 2009, the 10 steps have served as reference points for monitoring progress in the development and implementation of NQFs in Bologna Process Implementation Reports. In 2015, an eleventh step was added which requires information on the NQF and the self-certification report to be made publicly accessible. While the individual steps in principle build on each other – starting with conceptualisation and ending with the presentation of a self-certification report –, reality shows that countries follow slightly different paths. Such variety is legitimate as NQFs are a new phenomenon for most countries; however, transparency about the process and the challenges that countries face is essential to maintain trust towards the QF-EHEA.

Figure 3.23 shows the state of play of NQF implementation in EHEA countries according to the 11 steps.

Figure 3.23: Progress in development of national qualifications frameworks according to the 11 steps, 2016/17

Step 1	Decision to start has been taken by the national body responsible for higher education	–
Step 2	The purpose(s) of the NQF have been agreed and outlined	–
Step 3	The process of developing the NQF has been set up, with stakeholders identified and committee(s) established	BY
Step 4	The level structure, level descriptors (learning outcomes), and credit ranges have been agreed	RU
Step 5	Consultation/national discussion has taken place and the design of the NQF has been agreed by stakeholders	AD, AZ, CZ, RS
Step 6	The NQF has been adopted in legislation or in other high level policy document	SK, UA
Step 7	Implementation of the NQF has started with agreement on the roles and responsibilities of higher education institutions, QA agency(ies) and other bodies	AL
Step 8	Study programmes have been re-designed on the basis of the learning outcomes included in the NQF	BA
Step 9	Qualifications have been included in the NQF	AM, CH, FI, GE, KZ, MD, VA
Step 10	The Framework has self-certified its compatibility with the European Framework for Higher Education	BG, CY, RO
Step 11	The final NQF and the self-certification report can be consulted on a public website	AT, BE fr, BE nl, DE, DK, EE, ES, FR, HR, HU, IE, IS, IT, LI, LT, LU, LV, ME, (*), MT, NL, NO, PL, PT, SE, SI, TR, UK-ENG/WLS/NIR, UK-SCT

(*): the former Yugoslav Republic of Macedonia

Source: BFUG data collection.

Notes:

Greece: Data not available.

Almost all countries have completed the conceptualisation of their NQF and set up working structures for its development (steps 1-3). In Belarus, the government agreed on an NQF development plan in 2017 (step 2). In Russia, the only country which has remained at step 4 since 2015, the main technical features of the NQF (the level structure, the learning outcomes descriptors and credit ranges) had been agreed at policy level prior to 2015 and planning for the adoption of a comprehensive NQF covering all levels and sectors of qualifications, including higher education qualifications and self-certification is still to be seen.

The development of national qualifications frameworks and self-certification requires significant political commitment, resources and ownership from policy makers and all stakeholders involved. This is partly because introducing the learning outcomes approach in qualifications and programmes is a paradigm shift in higher education institutions but also for other stakeholders. Stakeholders need to fully understand and engage with the design of the NQF before the development can be launched (step 5). In Andorra and Serbia, the development of the main features of the NQF and the stakeholder consultation has been carried out. A draft law on the Andorran qualifications framework is to be presented to the parliament in 2018. In Serbia, a draft law on the NQF has recently been developed and is planned to be adopted in the first half of 2018. In contrast, Azerbaijan and the Czech Republic have not progressed beyond this step since 2015. It should, however, be noted that a recently adopted action plan in the Czech Republic foresees the adoption of the NQF and self-certification before the end of 2018. Similarly, in Azerbaijan, the adoption of the NQF and an action plan towards self-certification are expected in June 2018.

The formal adoption of the NQF, usually in national legislation, provides the formal basis for its implementation (step 6). Slovakia has formally adopted its NQF and self-certification is planned for 2022 (this delay is explained by the ongoing work on the establishment of an external quality assurance agency and qualification developments). The review of the NQF is on-going in Ukraine and self-certification is planned by 2020. Establishing institutional responsibilities for the NQF, including the involvement of quality assurance agencies, is explicitly called for in the self-certification criteria (step 7). Albania has started NQF implementation and, based on a recent review, the scope of the Albanian framework is broadened and its links to quality assurance are strengthened. In Bosnia and Herzegovina, study programmes have been re-designed on the basis of learning outcomes (step 8) since 2015.

Filling NQFs with real national qualifications transforms frameworks into working tools (step 9). Seven countries (Armenia, Finland, Georgia, the Holy See, Kazakhstan, Moldova and Switzerland,) have completed this important step. For Finland, this, together with the formal adoption of the NQF, was an important step forward after long national discussions on the NQF. By revising the NQF and including qualifications in it, Kazakhstan has also made progress since 2015. Armenia, the Holy See and Moldova have not progressed towards self-certification; however, they have Armenia and the Holy See have reviewed and revised their NQFs during this period; and Moldova is reviewing its NQF following the adoption of its new Education Code.

Completing the self-certification of the NQF to the QF-EHEA (step 10) makes qualifications more visible, comparable and understandable for other countries. Through this process a country proves that its NQF is compatible with the QF-EHEA and that the common European principles – in particular related to the use of learning outcomes, credits, quality assurance, the involvement of stakeholders – are respected. Bulgaria, Cyprus and Romania have completed their self-certification processes since 2015 but their reports and the final NQFs are not available online. By 2018, self-certification reports and NQFs of 30 higher education systems can be consulted on a public website (step 11). Austria, Iceland, Montenegro, Portugal and Turkey have made public their self-certification reports since 2015.

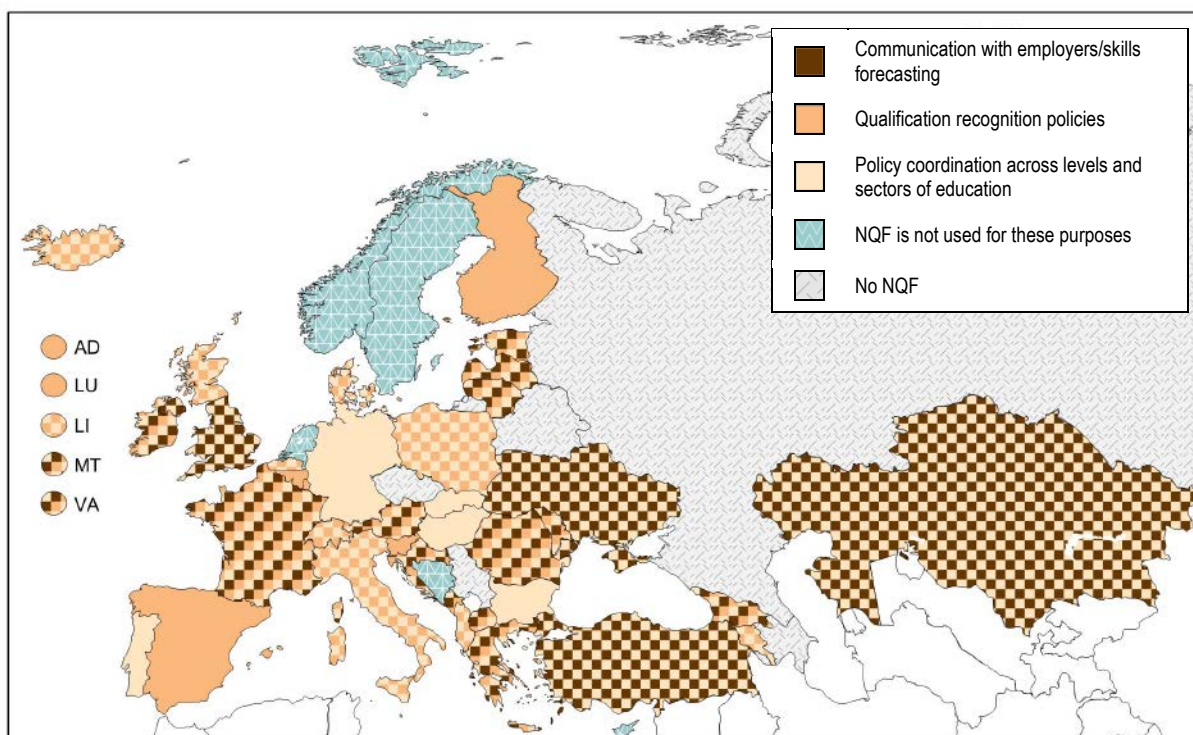
The development and implementation of NQFs is a dynamic process. Qualifications and learning outcomes linked to them need to change over time due to evolving competence requirements in society. In addition, most of the NQFs are new structures in European education systems, and need reflection and review to link well to other structural reform tools, such as quality assurance or credit systems. For this reason, it should be noted that, as also mentioned above, several countries are revisiting the 11 steps. Sixteen systems (Albania, Armenia, Denmark, Georgia, Germany, the Holy See, Hungary, Ireland, Kazakhstan, Latvia, the former Yugoslav Republic of Macedonia, Malta, Montenegro, Poland, Romania and the United Kingdom – Scotland) have reviewed their NQF since its adoption, and 11 systems (Andorra, Belgium – French Community, France, Croatia, Liechtenstein, Lithuania, Moldova, the Netherlands, Slovakia, Slovenia and Ukraine) are planning a review in the near future. In addition, Bulgaria, Latvia, the former Yugoslav Republic of Macedonia, Malta, the Netherlands, Slovenia and the United Kingdom (England, Wales and Northern Ireland) have already revisited their self-certification report since its first publication. These reviews can largely contribute to gaining more knowledge on NQFs and the QF-EHEA at national and European levels.

3.2.2.2. Use of national qualifications frameworks

The implementation of NQFs continues after the full roll-out of their – important - technical features (learning outcomes, credits, levels, etc.). The transparency that NQFs provide is to be fully exploited in improving higher education systems. At this stage, it should be ensured that the NQF is used for commonly agreed purposes by public policy bodies, higher education institutions and other stakeholders. Such purposes often include policy coordination, communication between stakeholders, international cooperation to facilitate mobility and qualification recognition, quality assurance, reforming higher education programmes, etc. This report considers if and how national authorities encourage NQFs to be used in public policy and by higher education institutions. Mapping other uses of NQFs by a broader range of stakeholders is beyond the scope of this report.

Figure 3.24 shows the main policy areas where national authorities themselves are required to or in practice actually use NQFs.

Figure 3.24: Use of national qualifications frameworks by national authorities, 2016/17



Source: BFUG data collection.

The most widespread use by national authorities in 34 of the 44 systems that have established an NQF is coordinating policy developments across different educational levels and sectors. For example, according to a report by Cedefop, most NQFs for higher education are integrated into comprehensive NQFs for lifelong learning that cover all levels and sectors of education (Cedefop, 2016). These comprehensive NQFs provide a common set of learning outcomes for developing standards and qualifications for schools, higher education, vocational education and training, adult education and, in some cases, non-formal and informal learning. In Estonia, the NQF is also linked to the development of a lifelong learning strategy. In Croatia, Denmark and Portugal, the NQF coordination group provides a forum for regular cross-education discussions; similarly, in the United Kingdom (Scotland), the framework supports so-called learner journey discussions.

Thirty-one systems use NQFs in policies on the recognition of foreign qualifications, although top-level authorities of 49 systems formally committed themselves to doing so by ratifying the Lisbon Recognition Convention ⁽⁶⁸⁾ (see Chapter 4.2). In 2015, signatories of the Convention, including EHEA countries, agreed to use NQFs in the recognition of qualifications for learning and professional purposes ⁽⁶⁹⁾. Countries using the NQF in the context of qualification recognition require or encourage (ENIC/NARIC ⁽⁷⁰⁾ and higher education institutions) verifying the level of foreign qualifications in partner countries' NQFs and checking self-certification reports as a first step in the process of qualification recognition.

Only 19 countries' national authorities use the NQF in dialogue with labour market actors or in skills forecasting. In Croatia, France and Georgia, employers are requested to use NQF levels when they formulate their skills needs. Fifteen education systems use their NQFs in all these three fields.

Other areas where the NQF is used are: the recognition of prior learning (Belgium – Flemish Community, quality assurance (Belgium – Flemish Community, Croatia, Iceland, Ireland, Liechtenstein, Montenegro and Norway), or in establishing salary scales for civil servants and state employees (Luxembourg). In contrast, while several national authorities are increasingly using NQFs in qualifications related policies, in Bosnia and Herzegovina, Cyprus and the Netherlands, authorities are neither required nor typically use NQF-HEs. It will be important to explore the reasons and the implications of this choice in the countries concerned.

Although not presented in a specific figure, top-level authorities were asked whether higher education institutions are required to use NQFs. Twenty-nine systems report that higher education institutions are formally required to use the NQF and its features in qualification and programme design, and a further eight countries indicate that (although not required) institutions usually use NQFs for these purposes. Some countries (Denmark, Hungary, Latvia, Lithuania, Portugal, Slovenia and the United Kingdom – Scotland) require higher education institutions to specify the NQF level of the qualification in the Diploma Supplement and other documentation related to the diploma (see also 3.2.1).

⁽⁶⁸⁾ Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165.

⁽⁶⁹⁾ The Committee of the Convention of the Recognition of Qualifications concerning Higher Education in the European Region. Subsidiary text to the Convention. 'Recommendation on the use of qualifications frameworks in the recognition of foreign qualifications' Strasbourg/Paris 19 June 2013 DGII/EDU/HE (2012) 14 Rev 09 final ED-2012/UNESCO [Online] Available at: [https://www.coe.int/t/dg4/highereducation/Recognition/DGIIEDUHE\(2012\)14%20Rev09%20FINAL%20-%20LRC%20Supplementary%20Text%20on%20the%20Use%20of%20QFs%20ENGLISH.asp](https://www.coe.int/t/dg4/highereducation/Recognition/DGIIEDUHE(2012)14%20Rev09%20FINAL%20-%20LRC%20Supplementary%20Text%20on%20the%20Use%20of%20QFs%20ENGLISH.asp) [Accessed 20 February 2018].

⁽⁷⁰⁾ ENIC – European National Information Centre; NARIC – National Academic Information and Recognition Centre (see also Section 4.2).

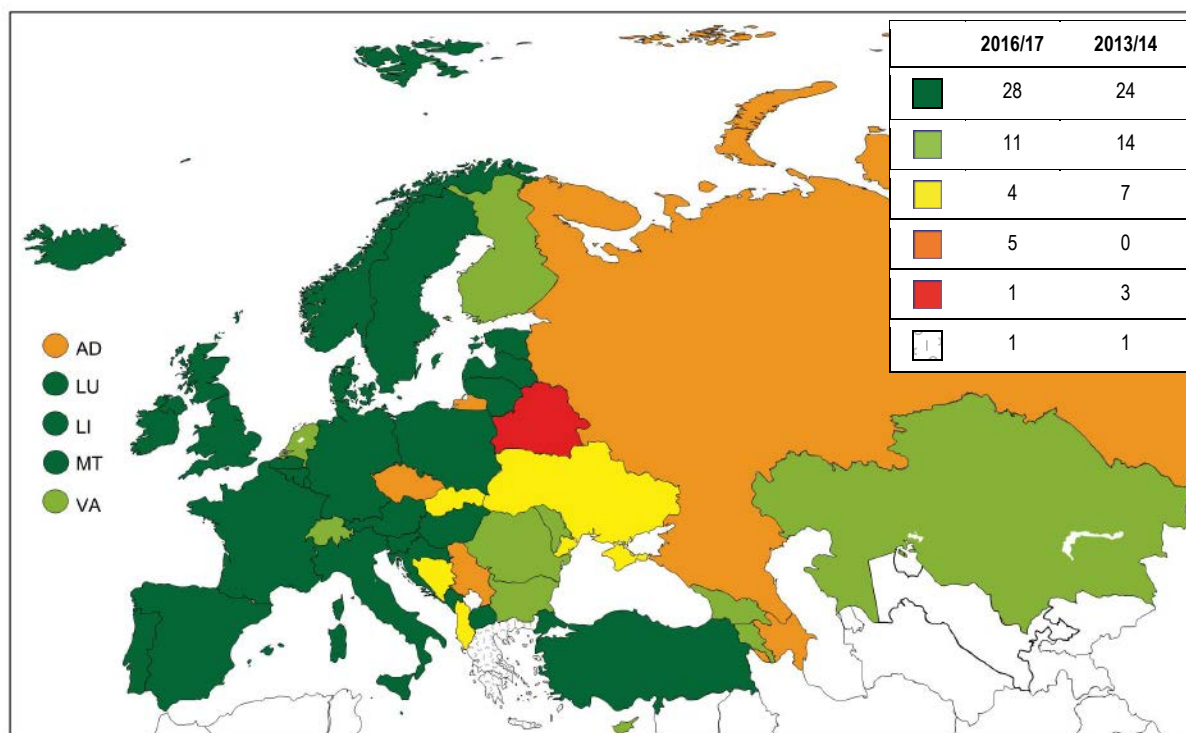
3.2.2.3. Stage of implementation of national qualifications frameworks: summary

Scorecard indicator n°3 (see Figure 3.25) summarises the state of play of the development and implementation of national qualifications framework for higher education. Both previous indicators in this part of the report are taken into account: the state of NQF implementation and the use of NQFs by national authorities.

As Figure 3.25 shows the majority of countries now comply with their commitments regarding qualifications frameworks. Systems in dark green have established their national qualifications frameworks for higher education and self-certified them to the QF-EHEA. In addition, in these countries the NQF is used by national authorities for at least one agreed purpose. In a few countries in the light green category, the NQF is in place and is self-certified, but national authorities do not use the NQF in public policy. In order to achieve the policy goals that national authorities together with stakeholders set for the national qualifications framework, NQFs need to be better integrated into public policy also in these countries.

Some countries have made remarkable progress in their NQF since the 2015 report. However, there remain some in which the pace of developments is very slow or seems not to move at all. These countries may risk losing momentum and miss the opportunity to increase the transparency of their qualifications system within the country and for international partners or students beyond their national borders.

Figure 3.25: Scorecard indicator n°3: Implementation of national qualifications frameworks, 2016/17



Source: BFUG data collection.







Notes:

The indicator is defined as the current state of the implementation of national qualifications frameworks. The state of implementation is measured against the steps of the implementation of NQFs. The dark green category is not fully comparable with the same dark green category in the Bologna Process Implementation report 2015. Step 11 is introduced in this revised Scorecard indicator and countries need to complete both steps in order to fulfil requirements for this category.

'Stakeholders' in Step 11 of the Scorecard indicator are understood narrowly as 'national authorities' only, due to the limited scope of the data collection (BFUG data collection). Information in indicator 3.24 is taken into account.

The colours in the figure indicate that the country has completed all steps related to a specific colour and all preceding steps. The red colour is an exception, countries having completed step 1 or step 2 also obtain this colour.

Scorecard categories

	<p>Steps 10-11:</p> <ul style="list-style-type: none"> ○ 11. Stakeholders* use the NQF (as a reference point) for at least one specific agreed purpose. ○ 10. The NQF has self-certified its compatibility with the Qualifications Framework for the European Higher Education Area.
	<p>Steps 7-9:</p> <ul style="list-style-type: none"> ○ 9. Qualifications have been included in the NQF. ○ 8. Study programmes have been re-designed on the basis of the learning outcomes included in the NQF. ○ 7. Implementation of the NQF has started with agreement on the roles and responsibilities of higher education institutions, quality assurance agency(ies) and other bodies.
	<p>Steps 5-6:</p> <ul style="list-style-type: none"> ○ 6. The NQF has been adopted in legislation or in other high level policy fora. ○ 5. Consultation/national discussion has taken place and the design of the NQF has been agreed by stakeholders.
	<p>Step 4: The level structure, level descriptors (learning outcomes), and credit ranges have been agreed.</p>
	<p>Steps 1-3:</p> <ul style="list-style-type: none"> ○ 3. The process of developing the NQF has been set up, with stakeholders identified and committee(s) established. ○ 2. The purpose(s) of the NQF have been agreed and outlined. ○ 1. Decision to start developing the NQF has been taken by the national body responsible for higher education and/or the minister.
	<p>Data not available</p>

3.3. Conclusions

This chapter examined Bologna Process structures and tools in two parts. The first part looked at the implementation of a common degree structure (the three cycles and the short cycle) as well as programmes outside this structure, while the second part concentrated on two main Bologna tools: the Diploma Supplement and national qualifications frameworks.

The analysis shows that bachelor or equivalent programmes (ISCED 6) involve most students in virtually all EHEA countries. Like the previous Bologna Process Implementation Reports, this report demonstrates that there is no single model of first-cycle programmes in the EHEA. Nevertheless, the majority of first-cycle programmes have a workload corresponding to 180 ECTS credits. Another quite widespread model is the 240 credits model, which applies to most first-cycle programmes in around one-third of all EHEA countries.

There are significant differences between countries in terms of the participation in master or equivalent programmes (ISCED 7; less than 10 % of all students in some countries, more than 30 % in some other countries). The workload of these programmes is most commonly set at 120 ECTS credits. The second most widespread model in the second cycle is the 60-75 ECTS model.

In the majority of the EHEA countries, the most common combined workload of the first and second cycle corresponds to 300 ECTS credits. In the eastern part of the EHEA, the most common workload is often higher – corresponding to 360 ECTS – which is mainly due to a more substantial workload in first-cycle programmes.

The situation varies across the EHEA when the progression between the first and second cycle is considered. In around half of the countries, most first-cycle graduates (50 % or above) undertake a second-cycle programme within one year of graduation and, in some of these countries, the proportion reaches 75 % and above. In contrast, in around a quarter of the countries, the same applies to less than 25 % of all first-cycle graduates. This could suggest that the labour market recognition of first-cycle qualifications varies across the EHEA.

Doctoral or equivalent programmes (ISCED 8) generally involve only a small proportion of all higher education students, less than 5 % in most countries. In almost all EHEA countries, the duration of these programmes follows the commonly agreed principles (the so called 'Salzburg Principles'),

i.e. doctoral studies are expected to last three to four years full-time. In line with the above principles, there are now doctoral schools in most EHEA countries. Yet, in a number of countries, only up to a quarter of all doctoral candidates follow their programme within a doctoral school. Moreover, while ECTS credits are now commonly allocated to third-cycle programmes, countries use different approaches: credits are sometimes attached to all elements of doctoral programmes, sometimes to taught courses only, and in some cases, it is up to higher education institutions to define their use.

Alongside the three main cycles, around half of all EHEA countries offer short-cycle higher education programmes. These programmes commonly use the ECTS system, and their workload most often corresponds to 120 ECTS. In around half of the countries with short-cycle higher education, short-cycle learning achievements (outcomes) are generally fully recognised within first-cycle studies in the same field. In another half of the countries, recognition is either less substantial or, exceptionally, there is no recognition. There are also countries that offer programmes of 'short-cycle tertiary education' (ISCED 5), which are not recognised within the higher education system. When not recognised as 'higher education', short-cycle programmes are usually part of a vocational education system. Overall, the short cycle appears as a complex field covering a range of programmes that differ in terms of content, orientation and purpose.

In addition to the three cycles and, possibly, short-cycle programmes, most EHEA countries also offer other programmes. Commonly, programmes outside the Bologna-degree structure comprise so-called 'integrated/long' programmes, i.e. programmes leading directly to a second-cycle degree. While integrated/long programmes exist in most EHEA countries, they involve different proportions of students: less than 5 % in some countries, more than 20 % in some others. These programmes usually exist in fields related to professions regulated in the European Union by the Directive on regulated professions 2005/36/EC, which defines qualification requirements for specific professions – medicine, dentistry, veterinary medicine, pharmacy and architecture –, including the duration of training. Teacher training, engineering, law and theology are also widespread fields for integrated programmes. In around a quarter of all EHEA countries, there are programmes outside the Bologna-degree structure other than integrated/long programmes. The nature of these programmes varies from one system to another: some are linked to first-cycle studies (e.g. programmes demanding a bachelor's degree for entry, but not leading to a second-cycle qualification), while others are linked to second- or third-cycle qualifications. There are also long programmes (five years), leading to a first-cycle qualification, rather than a master's degree.

There has been good progress since 2015 in the implementation of the Diploma Supplement. Indeed, most EHEA countries now comply with all the commonly agreed principles, i.e. the Diploma Supplement is issued to all first- and second-cycle graduates, automatically, in a widely spoken European language and free of charge. In around a quarter of the countries, one of these aspects has not yet been fulfilled, and one country has not yet introduced the Diploma Supplement. Besides the first and second cycle, the Diploma Supplement is also commonly issued after short-cycle higher education studies (where such studies exist). Yet, it is not yet the norm in the third cycle.

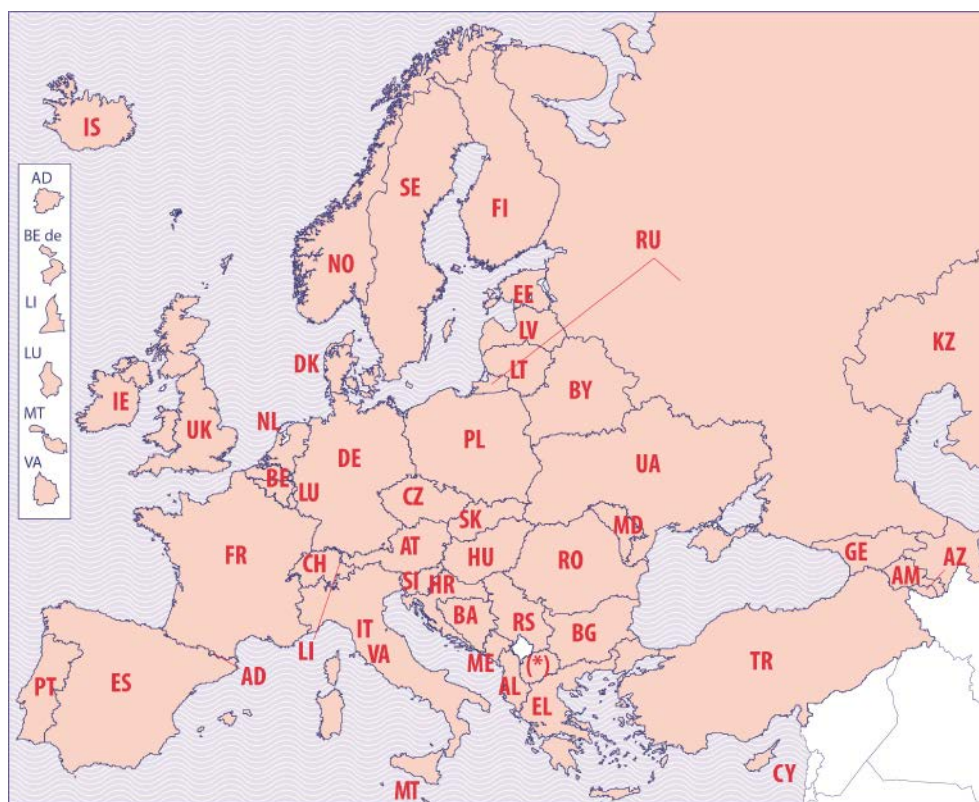
Overall, good progress can also be observed in the implementation of national qualifications frameworks (NQFs). The majority of the countries have established a national qualifications framework for higher education, self-certified it to the Framework for Qualifications of the European Higher Education Area (QF-EHEA) and national authorities use the NQF in public policy. In most countries, NQFs for higher education are integrated into NQFs for lifelong learning, which suggests widespread efforts in using NQFs for coordinating qualifications across sectors and levels of education. Several countries have also already reviewed their NQFs. The results of such reviews could be shared among EHEA countries for the benefit of peer learning. However, some countries have completed the framework development, but national authorities do not use the NQF in developing and monitoring higher education policy. This may send a negative message to stakeholders about the purposes of the NQF at national level.

While many countries have made remarkable progress in NQF development, there remain a few in which the pace of development is slow or seems not to move at all. These countries risk losing momentum and missing the opportunity to increase the transparency of their qualifications system within the country and for international partners and students beyond their national borders.

GLOSSARY AND METHODOLOGICAL NOTES

I. Codes, abbreviations and acronyms

I.1. Country Codes



AD	Andorra	EL	Greece	NL	Netherlands
AL	Albania	ES	Spain	NO	Norway
AM	Armenia	FI	Finland	PL	Poland
AT	Austria	FR	France	PT	Portugal
AZ	Azerbaijan	GE	Georgia	RO	Romania
BA	Bosnia and Herzegovina	HR	Croatia	RS	Serbia
BE de	Belgium – German-speaking Community	HU	Hungary	RU	Russia
BE fr	Belgium – French Community	IE	Ireland	SE	Sweden
BE nl	Belgium – Flemish Community	IS	Iceland	SI	Slovenia
BG	Bulgaria	IT	Italy	SK	Slovakia
BY	Belarus	KZ	Kazakhstan	(*)	The former Yugoslav Republic of Macedonia (Provisional code)
CH	Switzerland	LI	Liechtenstein	TR	Turkey
CY	Cyprus	LT	Lithuania	UA	Ukraine
CZ	Czech Republic	LU	Luxembourg	UK-ENG	United Kingdom – England
DE	Germany	LV	Latvia	UK-NIR	United Kingdom – Northern Ireland
DK	Denmark	MD	Moldova	UK-SCT	United Kingdom – Scotland
EE	Estonia	ME	Montenegro	UK-WLS	United Kingdom – Wales
		MT	Malta	VA	Holy See

I.2. Abbreviations

:	Data not available
BFUG	Bologna Follow-Up Group
CEEPUS	Central European Exchange Program for University Studies
COFOG	Classification of the Functions of Government
EEA	European Economic Area
EHEA	European Higher Education Area
ENIC	European Network of Information Centres
ESG	European Standards and Guidelines for Quality Assurance
EU	European Union
EUA	European University Association
EU-SILC	European Union Statistics on Income and Living conditions
EU-LFS	EU Labour Force Survey
FTE	Full-time equivalent
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
NARIC	National Academic Recognition Information Centres
OECD	Organisation for Economic Co-operation and Development
PPS	Purchasing Power Standard
R&D	Research and Development
UNESCO-UIS	United Nations Educational, Scientific and Cultural Organization, Institute for Statistics
UOE	UNESCO-UIS/OECD/Eurostat

II. General terms

Access routes to higher education

Routes to higher education are the different formal access requirements that are defined to be the necessary conditions of higher education access. Questions of selection or acceptance into a programme are not part of the definition.

Standard route: entering higher education with a standard entry qualification. The standard entry qualification is the most widely used diploma or certificate issued by a competent authority attesting the successful completion of an education programme and giving the holder of the qualification the right to be considered for admission to higher education (typically the upper secondary school leaving certificate).

Alternative route: entering higher education without a standard entry qualification, based on requirements other than the standard entry requirements (e.g. based on qualification other than the standard entry qualification or based on the recognition of prior non-formal and informal learning).

Admission (to higher education institutions and programmes)

The act of, or system for, allowing qualified applicants to pursue studies in higher education at a given institution and/or a given programme (see the Lisbon Recognition Convention (¹⁴³)).

Completion

The successful finishing of a study programme (graduation).

⁽¹⁴³⁾ Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165, [Online] Available at: <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/165> [Accessed 22 February 2018].

Credit accumulation/Accumulation of credits

The process of collecting credits awarded for achieving the learning outcomes of educational components in formal contexts and for other learning activities carried out in informal and non-formal contexts. A student can accumulate credits in order to obtain qualifications, as required by the degree-awarding institution, or to document personal achievements for lifelong learning purposes (European Commission 2015 p. 66).

Credit mobility

Credit mobility is a short-term form of mobility – usually a maximum of one year – aiming at the acquisition of credits in a foreign institution in the framework of on-going studies at the home institution.

Credit transfer/Transfer of credits

Is the process of having credits awarded in one context (programme, institution) recognised in another formal context for the purpose of obtaining a qualification. Credits awarded to students in one programme may be transferred from an institution to be accumulated in another programme offered by the same or another institution. Credit transfer is the key to successful study mobility. Institutions, faculties, departments may make agreements which guarantee automatic recognition and transfer of credits (European Commission 2015, p. 68).

Cycle

One of the objectives in the Bologna Declaration in 1999 was the ‘adoption of a system based on two main cycles, undergraduate and graduate.’ In 2003 doctoral studies were included in the Bologna structure and referred to as the third cycle. The EHEA has thus defined a hierarchy of three Higher Education cycles (first cycle, second cycle and third cycle). All higher education qualifications in the European Higher Education Area are located within these three cycles (European Commission 2015, p. 68).

Degree mobility

Degree mobility is a long-term form of mobility which aims at the acquisition of a whole degree or certificate in the country of destination.

Digital certificates

Two types exist: a) Certificates that confirm participation in/ completion of a course, b) Certificates that verify the learner’s identity and confirm attainment of learning outcomes. Digital certificates typically include a URL which leads to the course information and/or the display of certificate information at the website of the course provider to prove the authenticity of the credential (Witthaus, et al., 2016).

Diploma Supplement (DS)

Is a document accompanying a higher education diploma, providing a standardised description of the nature, level, context, content and status of the studies completed by its holder. It is produced by the higher education institutions according to standards agreed by the European Commission, the Council of Europe and UNESCO. The Diploma Supplement is also part of the Europass framework transparency tools.

It has the following eight sections of information: the holder of the qualification; the qualification; its level and function; the contents and results gained; certification of the supplement; details of the national higher education system concerned (provided by the National Academic Recognition Information Centres (NARICs)); any additional relevant information.

Graduates in all the countries taking part in the Bologna Process have the right to receive the Diploma Supplement automatically, free and in a major European language (European Commission 2015, p. 69).

Doctoral/Research school

An organisational structure that includes only doctoral students. It may be organised around a particular discipline, research theme or a cross-disciplinary research area and/or it is focused on creating a research group/network and is project-driven. It may involve one institution or several institutions and organise co-operation among them (EUA 2007, p. 27).

Credit (ECTS)

ECTS credits express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or its equivalent, which normally comprises a number of educational components to which credits (on the basis of the learning outcomes and workload) are allocated. ECTS credits are generally expressed in whole numbers (European Commission 2015, p. 68).

Drop-out

Refers to students who start but do not continue or finish a study programme.

European Association for Quality Assurance in Higher Education (ENQA)

The association of quality assurance agencies in the European Higher Education Area was set up in 2000. It aims to disseminate information, experiences and good practices in the field of quality assurance in higher education. Membership of the association is open to quality assurance agencies in the EHEA member states. Membership of ENQA represents recognition that an agency complies with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

European Credit Transfer and Accumulation System (ECTS)

ECTS is a learner-centred system for credit accumulation and transfer, based on the principle of transparency of the learning, teaching and assessment processes. Its objective is to facilitate the planning, delivery and evaluation of study programmes and student mobility by recognising learning achievements and qualifications and periods of learning (European Commission 2015, p. 69).

European Qualifications Framework for Lifelong Learning (EQF)

The European Qualifications Framework for lifelong learning is a common European reference framework which aims to increase the transparency, comparability and portability of qualifications systems and all types and levels of qualifications in Europe. The EQF uses eight common European reference levels based on learning outcomes that are defined in terms of knowledge, skills and competences. The EQF is implemented by referencing levels of national qualifications frameworks to the levels of the EQF. The EQF was adopted by the Council of Ministers in the EU in 2008 and revised in 2017.

European Quality Assurance Register for Higher Education (EQAR)

The Register aims at increasing transparency of quality assurance in higher education across Europe. It has been founded in 2008 by the European Association for Quality Assurance in Higher Education (ENQA), the European Students' Union (ESU), the European University Association and the European Association of Institutions in Higher Education (EURASHE). EQAR publishes and manages a list of quality assurance agencies that substantially comply with the European Standards and Guidelines for

Quality Assurance (ESG) to provide clear and reliable information on quality assurance agencies operating in Europe (¹⁴⁴).

External quality assurance

External quality assurance refers to the process of evaluation or audit of a higher education programme or institution undertaken by a specialised body outside the institution. Typically the body may be a quality assurance or accreditation agency, or an ad hoc panel of experts and peers constituted by the responsible Ministry. The evaluation will involve the collection of data, information and evidence for assessment against agreed standards.

Fee

Any sum of money paid by students with which they formally and compulsorily contribute to the cost of their higher education. This may include, but is not restricted to e.g. a registration fee, tuition fees, graduation fees, administrative fees, etc. Payments to student unions are not taken into account.

Formal learning

Formal learning means learning which takes place in an organised and structured environment, specifically dedicated to learning, and typically leads to the award of a qualification, usually in the form of a certificate or a diploma. It includes systems of general education, initial vocational training and higher education (¹⁴⁵).

Framework for Qualifications of the European Higher Education Area /Qualifications Framework for the European Higher Education Area (QF-EHEA)

Refers to the overarching framework for qualifications in the EHEA, which comprises three cycles (including, within national contexts, the possibility of intermediate qualifications), generic descriptors for each cycle based on learning outcomes, and credit ranges in the first and second cycles. In order to prove the compatibility of national qualifications frameworks for higher education with the QF EHEA, NQFs need to be self-certified to the QF-EHEA.

Funding formulas

Funding formulas are formulas that automatically allocate funds to institutions. They may vary on the basis of the factors used in their development. These might include among others inputs, such as students or staff, nominal, real or average costs per student and performance-based criteria (Salmi and Hauptman 2006, p. 10).

Governing bodies

Refers to structures with responsibility for the strategic orientation and organisation/management of higher education institutions.

Graduate tracking surveys

A survey of graduates from institutions of higher education (sometimes also called as 'alumni survey' or 'follow-up survey') that usually aims at mapping the labour market situation (professional success, relevance of skills etc.) of graduates. Graduate surveys provide information for evaluating the results of the education and training of a specific institution of higher education (Schomburg 2003, p. 11).

Regular graduate tracking surveys are conducted repeatedly, in regular intervals.

⁽¹⁴⁴⁾ For more details on the European Quality Assurance Register for Higher Education (EQAR), see <http://www.egar.eu/> [Accessed 8 March 2018].

⁽¹⁴⁵⁾ Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning, O.J. 2012/C 398/01.

Grant

Non-repayable public financial support. A need-based grant is awarded on the basis of financial hardship/socio-economic background of students. Universal grants are awarded to (almost) all students. For the purposes of this report, grants can be regarded as universal if they are awarded to at least 50 % of students. A merit-based grant is awarded on the basis of the academic performance of students.

Higher education institution

Any institution providing services in the field of higher and/or tertiary education, as defined by national law.

Higher education qualification

Any degree, diploma or other certificate issued by a competent authority attesting the successful completion of a higher education programme (Lisbon Recognition Convention ⁽¹⁴⁶⁾).

Incentives

Apart from regulations, educational authorities can also encourage higher education institutions to follow certain policy lines (e.g. support under-represented groups, enhance completion, include work placements or mobility windows into study programmes, etc.) through incentives. Incentives can be financial, based on funding formulas or performance-based funding, or can include organisational or managerial support.

Incoming mobility

Incoming mobility refers to students that moved (i.e. crossed a national border) to a specified country to study.

Informal learning

Informal learning means learning resulting from daily activities related to work, family or leisure and is not organised or structured in terms of objectives, time or learning support; it may be unintentional from the learner's perspective; examples of learning outcomes acquired through informal learning are skills acquired through life and work experiences, project management skills or ICT skills acquired at work, languages learned and intercultural skills acquired during a stay in another country, ICT skills acquired outside work, skills acquired through volunteering, cultural activities, sports, youth work and through activities at home (e.g. taking care of a child) ⁽¹⁴⁷⁾.

Integrated/long programmes

Programmes including both the first and the second cycle and leading to a second-cycle qualification.

Internal quality assurance

Internal quality assurance refers to the processes involved in assuring and/or improving the quality of defined areas of activity within higher education institutions. Typically, it involves the systematic collection and analysis of administrative data, as well as the feedback of students, lecturers, other staff and external stakeholders.

⁽¹⁴⁶⁾ Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165, [Online] Available at: <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/165> [Accessed 22 February 2018].

⁽¹⁴⁷⁾ Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning, O.J. 2012/C 398/01.

Joint degree

A joint degree is a single document officially recognised by the appropriate (national or, if applicable, regional) authorities of at least two countries.

Joint programme

Joint programmes are usually inter-institutional arrangements among higher education institutions leading to a joint degree. Parts of joint programmes undertaken by students at partner institutions are recognised automatically by the other partner institutions. The same is true for joint degrees.

Labour market/skills forecasting

'Forecasting skill needs involves estimating the expected future number of jobs available in an economy [in the medium or long term] and their particular skill or qualification requirements. Skills needs forecasts are complemented by forecasts of the number of people (supply) with particular skills. The comparison of demand and supply can indicate potential imbalances or skill mismatches in future labour markets. Most typically, skills supply and demand is forecasted in order to help different labour market actors – employees, employers, students and parents, social partners, policy makers – to take informed decisions and appropriate action concerning the labour market. Labour market forecasting is usually conducted by occupation and qualification levels (Cedefop, 2012).

Learning outcome

Learning outcomes are statements of what the individual knows, understands and is able to do on completion of a learning process. The achievement of learning outcomes has to be assessed through procedures based on clear and transparent criteria. Learning outcomes are attributed to individual educational components and to programmes at a whole. They are also used in European and national qualifications frameworks to describe the level of the individual qualification (European Commission 2015, p. 72).

Lisbon Recognition Convention (LRC)

The Convention on the Recognition of Qualifications concerning Higher Education in the European Region ⁽¹⁴⁸⁾ was developed by the Council of Europe and UNESCO and adopted in 1997 in Lisbon. It aims to ensure that holders of a qualification from one European country have that qualification recognised in another.

Loan

Repayable financial aid. Student loan models may differ in many aspects, such as in their repayment plans, the level of subsidy, the expenses covered, eligibility rules, etc. A student loan is subsidised when the government bears a part of the costs. This can take the form of a government guarantee, when student loans are guaranteed or insured by the government against the risk of default and loss (Salmi and Hauptman 2006, p. 43).

Massive Open Online Courses (MOOCs)

Courses which allow open entry, are free, and are delivered online usually with peer or automated support. They often have large enrolment numbers. For the purposes of this data collection, we consider MOOCs as (usually shorter) online courses which do not result in degree qualifications. MOOCs may be provided by higher education institutions as well as other providers.

⁽¹⁴⁸⁾ Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165, [Online] Available at: <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/165> [Accessed 22 February 2018].

Mobility window

A period of time reserved for international student mobility that is embedded into the curriculum of a study programme.

Monitoring

Monitoring is the process of systematic data gathering, analysis and use of information by top-level authorities to inform policy. Systematic monitoring must include mechanisms of cross-institutional data gathering and allow cross-institutional data comparability.

National qualifications frameworks for higher education

National qualifications frameworks describe qualifications in terms of level, workload, learning outcomes and profile. They relate qualifications and other learning achievements in higher education coherently and are internationally understood.

Non-formal learning

Non-formal learning means learning which takes place through planned activities (in terms of learning objectives, learning time) where some form of learning support is present (e.g. student-teacher relationships); it may cover programmes to impart work skills, adult literacy and basic education for early school leavers; very common cases of non-formal learning include in-company training, through which companies update and improve the skills of their workers such as ICT skills, structured on-line learning (e.g. by making use of open educational resources), and courses organised by civil society organisations for their members, their target group or the general public (¹⁴⁹).

Online programme

A higher education programme that is provided primarily or entirely through the use of an Internet-connected computer, rather than attending a programme in a traditional higher education institution/campus setting.

Outward mobility

Outward mobility refers to students that left their country of residence (i.e. crossed a national border) to study elsewhere (in which they are counted as inwardly mobile students).

Performance-based mechanisms

Performance-based mechanisms are funding mechanisms related to actual or intended results by an institution over a certain period. They may be based on outputs, such as number of graduates, or inputs, such as number of students/staff with certain characteristics. Performance-based mechanisms may take the form of performance contracts, performance set asides and payments for results in research and/or education (Salmi and Hauptman 2006, p. 16).

Portability

The possibility to take the support available to students in their home country abroad (within EHEA) for credit mobility (credit portability) or degree mobility (degree portability) (European Commission/EACEA/Eurydice 2016b, p. 57).

⁽¹⁴⁹⁾ Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning, O.J. 2012/C 398/01.

Preferential treatment

The treatment of one individual or group of individuals in a manner that is likely to lead to greater benefits, access, rights, opportunities or status than those of another individual or group of individuals. Regarding admission to higher education, preferential treatment can include, for example, entry quotas, the awarding of extra points in a selection process on the basis of belonging to an under-represented group, etc.

Public higher education institution

With this term we refer to higher education institutions directly or indirectly administered by a public education authority. Public higher education institutions thus include two categories of institution: 'public institution', i.e. an institution directly managed by a government agency/authority or by a governing body, most of whose members are either appointed by a public authority or elected by public franchise, and: 'government-dependent private higher education institution', i.e. an institution controlled/managed by a non-governmental organisation or where the governing board consists of members not selected by a public agency but receiving 50 percent or more of its core funding from government agencies or whose teaching personnel are paid by a government agency – either directly or through government.

Quality assurance agency

A body established by public authorities with responsibility for external quality assurance. Agencies are intended to play a strong role in ensuring accountability of higher education institutions and may have specific objectives and developmental roles regarding enhancing quality.

Quantitative objectives

Quantitative targets defining a goal to be reached (in terms of a concrete percentage) regarding the composition of students in various respects (e.g. regarding the proportion of under-represented groups entering higher education, completing it or participating in mobility programmes).

Recognition of non-formal and informal learning

Validation and formal recognition of learners' non-formal and informal learning experiences in order to:

- provide higher education access to candidates without an upper secondary school leaving certificate; or
- within a higher education programme, allocate credits towards a qualification and/or provide exemption from some programme requirements.

Retention

The successful continuation of a study programme.

Self-certification

A procedure when national authorities, other bodies and stakeholders certify the compatibility of their national qualifications framework for higher education with the overarching Qualifications Framework for the European Higher Education Area. A set of procedures for the transparent self-certification of compatibility by member states was agreed by higher education ministers in the Bologna Process.

Short cycle

Degree programmes of less than 180 ECTS (or lasting less than 3 years), leading to a qualification that is recognised at a lower level than a qualification at the end of the first cycle. Short-cycle qualifications are recognised in the overarching framework of qualifications for the European Higher Education Area (QF-EHEA).

Socio-economic status

A combined economic and sociological measure of an individual's or family's economic and social position relative to others, based on income, level of education, and occupation. Definitions of socio-economic status might differ depending on the national context.

Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)

European standards and guidelines are an agreed set of standards and guidelines for quality assurance in European higher education. They were developed by the 'E4 Group' (i.e. ENQA, EUA, EURASHE and ESU) and adopted by the ministers in Bergen in 2005. Revision to the ESG was undertaken between the Bucharest and Yerevan Ministerial Conferences, and an updated version of the ESG was adopted at the Yerevan Ministerial Conference in 2015 (¹⁵⁰).

Steering documents

Official documents containing guidelines, obligations and/or recommendations for higher education policy and/or institutions.

Strategy

An official policy document developed by the central authorities in an effort to achieve an overall goal. A strategy can comprise a vision, identify objectives and goals (qualitative and quantitative), describe processes, authorities and people in charge, identify funding sources, make recommendations, etc.

Student-centred learning

The European Students' Union (ESU) defines student-centred learning as 'both a mindset and a culture [...] characterised by innovative methods of teaching which aim to promote learning in communication with teachers and other learners and which take students seriously as active participants in their own learning, fostering transferable skills such as problem-solving, critical thinking and reflective thinking' (ESU, 2015, n.p.).

Tax benefits

Tax relief of any kind, not limited to income tax.

Under-represented groups of students

Societal groups that may be considered as not being proportionally represented in higher education in different countries. Examples might include people with disabilities, migrants, ethnic groups, lower socio-economic status groups, women/men, etc.

Vertical segregation

Vertical segregation refers to the phenomenon that while women outnumber men amongst higher education graduates, they are slightly under-represented at doctoral level, and there are even fewer women amongst higher ranking academic staff in universities. Thus, vertical segregation refers to the under-representation of women at higher levels of the professional hierarchy.

Workload

An estimation of the time learners typically need to complete all learning activities such as lectures, seminars, projects, practical work, work placements, individual study required to achieve the defined learning outcomes in formal learning environments. The correspondence of the fulltime workload of an academic year to 60 credits is often formalised by national legal provisions. In most cases, student

⁽¹⁵⁰⁾ For more details on the European Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), see <http://www.enqa.eu/index.php/home/esg/> [Accessed 8 March 2018].

workload ranges from 1 500 to 1 800 hours for an academic year, which means that one credit corresponds to 25 to 30 hours of work. It should be recognised that this represents the normal workload and that for individual learners the actual time to achieve the learning outcomes will vary. (European Commission 2015, p. 77)

Work placement/practical training

The term 'work placement' refers to experience gained in a working environment as an integrative part of a higher education programme. Most typically, it refers to the placement of students in supervised work settings (e.g. through internships) so they can apply the knowledge and skills learned during their studies. Alternatively, it can also refer to a period of voluntary work (also referred to as 'student-community engagement') that is intended to allow students to become familiar with the working environment in general, whilst also conveying some benefit to the community (Bourner and Millican, 2011).

III. Statistical terms

Academic staff (Figures 1.6, 1.7 and 1.8)

This category includes:

- Personnel employed at the tertiary level of education whose primary assignment is instruction or research;
- Personnel who hold an academic rank with such titles as professor, associate professor, assistant professor, instructor, lecturer or the equivalent of any of these academic ranks;
- Personnel with other titles, (e.g. dean, director, associate dean, assistant dean, chair or head of department), if their principal activity is instruction or research.

It excludes student teachers, teachers' aides and paraprofessionals (UNESCO-UIS, OECD and Eurostat 2016, p. 43).

Access routes to higher education (Figure 5.16)

Standard route: entering higher education with the standard entry qualification (the upper secondary school leaving certificate) obtained in direct relation to leaving school for the first time (e.g. *Matura*, *Abitur*, *Baccalauréat*), either in the country of survey or abroad.

Delayed route: entering higher education with the standard entry qualification (the upper secondary school leaving certificate) obtained with a delay, e.g. via evening classes or adult learning.

Alternative route: entering higher education without the standard entry qualification.

At-risk-of-poverty rate (Figure 6.8)

The at-risk-of-poverty rate is the share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers (Eurostat, 2018a).

The equivalised disposable income is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale (Eurostat, 2018b).

Completion rate (Figure 5.28)

Tertiary completion rates show the percentage of students who enter (i.e. entrants) a tertiary programme and ultimately graduate from it. The preferred method used to calculate the completion rate is the true cohort method based on panel data (survey or registers), which follow the individual student from entrance to graduation in the programme. The completion rate gives the proportion of entrants who graduated within the theoretical duration of the programme (N) plus 3 years (N+3), to ensure that only a minority of entrants are still enrolled in the system by that time. Unfortunately, as Figure 5.28 shows, only a limited number of countries apply the true cohort method to calculate completion rates.

Delayed transition students (Figures 5.2 and 5.9)

Delayed transition is a characteristic used for defining a type of student, who entered higher education for the first time more than 24 months after leaving school.

Educational attainment (Figures 5.1, 5.2, 6.1, 6.2, 6.3, 6.6, 6.7 and 6.8)

Educational attainment refers to the highest level of education successfully completed. Indicators using the International Standard Classification of Education (ISCED) often distinguish between low, medium and high educational attainment. These categories are compiled as follows (in EU LFS):

- Low educational attainment corresponds to completed pre-primary, primary and lower secondary education (ISCED levels 0, 1 and 2). For figures in Chapter 6, low educational attainment refers to completed lower secondary education (ISCED 2).
- Medium educational attainment corresponds to upper secondary and post-secondary non-tertiary education (ISCED levels 3 and 4). For figures in Chapter 6, medium educational attainment refers to completed upper secondary education (ISCED 4).
- High educational attainment corresponds to tertiary education (ISCED levels 5 to 8).

When referring to students with or without a higher education background (Figure 5.2), then students with higher education background are those whose parents' highest degree is at ISCED level 5-8; and students without higher education background are those whose parents' highest degree is at ISCED level 0-4.

Expenditure on tertiary education (Figures 1.9, 1.10, 1.12, 1.13, 1.14 and 5.21)

Within the UOE data collection, education expenditure includes the following financial data:

- Goods and Services of educational institutions: All direct public, private and international expenditure whether educational or non-educational (e.g. ancillary services), but with some exceptions; and;
- Goods and Services purchased outside educational institutions: private expenditure on educational goods and services; plus
- Public subsidies to students for student living costs regardless of where or how the student spends these subsidies (UNESCO-UIS, OECD and Eurostat 2016, p. 48).

Public expenditure refers to spending of public authorities. Expenditure on education by other ministries or equivalent institutions, for example Health and Agriculture is included. It includes subsidies provided to households and other private entities (often in the form of financial aid to students) which can be attributable to educational institutions (e.g. fees) or not (e.g. private living costs outside of institutions). Expenditure that is not directly related to education (e.g., culture, sports, youth activities, etc.) is excluded unless provided as ancillary services. (Ibid, p. 56).

Three main types of government expenditure (at central, regional or local levels) on education are distinguished:

- Direct expenditure on educational institutions,
- Intergovernmental transfers for education, and
- Transfers or other payments from governments to households and other private entities.

Public subsidies to households includes:

- Scholarships and other grants (including child allowances contingent to student status, special public subsidies in cash or in kind that are contingent on student status) and
- Student loans (including those not attributable to household payments for educational institutions, such as subsidies for student living costs) (Ibid, p. 58).

On differences between the UOE data collection and data based on COFOG (see Figure 1.11), see Section IV.

Formal student status (Eurostudent) (Figures 2.24 and 2.25)

In the framework of Eurostudent research, formal status includes student's official registration, which is recognised by the state's order and/or the higher education institutions in the respective country. It contains the categories full-time, part-time, and other. A full-time/part-time student is a student who formally holds the respective status irrespective of the weekly number of hours spent on study-related activities (taught and personal study time) (Hauschildt et al., 2015).

Full-time equivalent student (Figures 1.12, 1.13 and 1.14)

A full-time equivalent (FTE) is a unit to measure students in a way that makes them comparable although they may study a different number of hours per week. The unit is obtained by comparing a student's average number of hours studied to the average number of hours of a full-time student. A full-time student is therefore counted as one FTE, while a part-time student gets a score in proportion to the hours he or she studies (Eurostat, 2015b).

Gross income (Figures 6.6 and 6.7)

Gross income is the sum of the variables PY010G 'Employee cash or near cash income' and PY020G 'Non-Cash employee income' derived from the EU-SILC database. Gross means that neither taxes nor social contributions have been deducted at source. Employee income is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the income reference period.

Gross employee cash or near cash income (PY010G) refers to the monetary component of the compensation of employees in cash payable by an employer to an employee. It includes the value of any social contributions and income taxes payable by an employee or by the employer on behalf of the employee to social insurance schemes or tax authorities. Examples of items included are:

- Wages and salaries paid in cash for time worked or work done in main and any secondary or casual job(s);
- Remuneration for time not worked (e.g. holiday payments);
- Enhanced rates of pay for overtime;
- Supplementary payments (e.g. thirteenth month payment);
- Profit sharing and bonuses paid in cash;
- Allowances for transport to or from work.

Gross non-cash employee income (PY020G) refers to the non-monetary income components which may be provided free or at reduced price to an employee as part of the employment package by an employer (only the value of private use is taken into account). Examples are a company car and associated costs, free or subsidised meals, luncheon vouchers, reimbursement or payment of housing-related expenses.

Incoming mobility rate (Figures 7.10, 7.11, 7.17, 7.18, 7.19 and 7.20)

Incoming mobility rate refers to mobile students (enrolments or graduates) from abroad studying in the country of destination as a percentage of the total number of students enrolled/graduating in the country.

International Standard Classification of Education (ISCED)

The International Standard Classification of Education (ISCED) has been developed to facilitate comparisons of education statistics and indicators across countries on the basis of uniform and internationally agreed definitions. The coverage of ISCED extends to all organised and sustained learning opportunities for children, young people and adults, including those with special educational needs, irrespective of the institutions or organisations providing them or the form in which they are delivered.

The older ISCED classification – known as ISCED 1997 (UNESCO, 1997b) – referred to seven levels of education:

- ISCED 0: Pre-primary education;
- ISCED 1: Primary education;
- ISCED 2: Lower secondary education;
- ISCED 3: Upper secondary education;
- ISCED 4: Post-secondary non-tertiary education;
- ISCED 5: Tertiary education (first stage);
- ISCED 6: Tertiary education (second stage).

The current classification – ISCED 2011 or 'ISCED' (UNESCO-UIS, 2012) – refers to the following levels of education:

ISCED 0: Pre-primary education

Programmes at level 0 (pre-primary), defined as the initial stage of organised instruction, are designed primarily to introduce very young children to a school-type environment, i.e. to provide a bridge between the home and a school-based atmosphere. Upon completion of these programmes, children continue their education at level 1 (primary education).

ISCED level 0 programmes are usually school-based or otherwise institutionalised for a group of children (e.g. centre-based, community-based, home-based).

Early childhood educational development (ISCED level 010) has educational content designed for younger children (in the age range of 0 to 2 years). Pre-primary education (ISCED level 020) is designed for children aged at least 3 years.

ISCED 1: Primary education

Primary education provides learning and educational activities typically designed to provide students with fundamental skills in reading, writing and mathematics (i.e. literacy and

numeracy). It establishes a sound foundation for learning, a solid understanding of core areas of knowledge and fosters personal development, thus preparing students for lower secondary education. It provides basic learning with little specialisation, if any.

This level begins between 5 and 7 years of age, is compulsory in all countries and generally lasts from four to six years.

ISCED 2: Lower secondary education

Programmes at ISCED level 2, or lower secondary education, typically build upon the fundamental teaching and learning processes which begin at ISCED level 1. Usually, the educational aim is to lay the foundation for lifelong learning and personal development that prepares students for further educational opportunities. Programmes at this level are usually organised around a more subject-oriented curriculum, introducing theoretical concepts across a broad range of subjects.

This level typically begins around the age of 11 or 12 and usually ends at age 15 or 16, often coinciding with the end of compulsory education.

ISCED 3: Upper secondary education

Programmes at ISCED level 3, or upper secondary education, are typically designed to complete secondary education in preparation for tertiary or higher education, or to provide skills relevant to employment, or both. Programmes at this level offer students more subject-based, specialist and in-depth programmes than in lower secondary education (ISCED level 2). They are more differentiated, with an increased range of options and streams available.

This level generally begins at the end of compulsory education. The entry age is typically age 15 or 16. Entry qualifications (e.g. completion of compulsory education) or other minimum requirements are usually needed. The duration of ISCED level 3 varies from two to five years.

ISCED 4: Post-secondary non-tertiary education

Post-secondary non-tertiary programmes build on secondary education to provide learning and educational activities to prepare students for entry into the labour market and/or tertiary education. It typically targets students who have completed upper secondary (ISCED level 3) but who want to improve their skills and increase the opportunities available to them. Programmes are often not significantly more advanced than those at upper secondary level as they typically serve to broaden rather than deepen knowledge, skills and competencies. They are therefore pitched below the higher level of complexity characteristic of tertiary education.

ISCED 5: Short-cycle tertiary education

Programmes at ISCED level 5 are short-cycle tertiary education, and are often designed to provide participants with professional knowledge, skills and competencies. Typically, they are practice-based and occupation-specific, preparing students to enter the labour market. However, these programmes may also provide a pathway to other tertiary education programmes.

Academic tertiary education programmes below the level of a Bachelor's programme or equivalent are also classified as ISCED level 5.

ISCED 6: Bachelor's or equivalent level

Programmes at ISCED level 6 are at Bachelor's or equivalent level, which are often designed to provide participants with intermediate academic and/or professional knowledge, skills and

competencies, leading to a first degree or equivalent qualification. Programmes at this level are typically theory-based but may include practical elements; they are informed by state of the art research and/or best professional practice. ISCED 6 programmes are traditionally offered by universities and equivalent tertiary educational institutions.

ISCED 7: Master's or equivalent level

Programmes at ISCED level 7 are at Master's or equivalent level, and are often designed to provide participants with advanced academic and/or professional knowledge, skills and competencies, leading to a second degree or equivalent qualification. Programmes at this level may have a substantial research component but do not lead to the award of a doctoral qualification. Typically, programmes at this level are theory-based but may include practical components and are informed by state of the art research and/or best professional practice. They are traditionally offered by universities and other tertiary educational institutions.

ISCED 8: Doctoral or equivalent level

Programmes at ISCED level 8 are at doctoral or equivalent level, and are designed primarily to lead to an advanced research qualification. Programmes at this ISCED level are devoted to advanced study and original research and are typically offered only by research-oriented tertiary educational institutions such as universities. Doctoral programmes exist in both academic and professional fields.

The first statistical data collection based on ISCED 2011 took place in 2014.

The ISCED classification also refers to fields of education. This area was revised in 2013 (ISCED-F 2013). The current classification refers to 'broad fields', which are further divided into 'narrow fields' and 'detailed fields' (UNESCO-UIS, 2015). The 'broad fields' are as follows:

- 00 Generic programmes and qualifications;
- 01 Education;
- 02 Arts and humanities;
- 03 Social sciences, journalism and information;
- 04 Business, administration and law;
- 05 Natural sciences, mathematics and statistics;
- 06 Information and Communication Technologies (ICTs);
- 07 Engineering, manufacturing and construction;
- 08 Agriculture, forestry, fisheries and veterinary;
- 09 Health and welfare;
- 10 Services;
- 99 Field unknown.

International Standard Classification of Occupations (ISCO) (Figures 6.9, 6.10, 6.11 and 6.12)

ISCO is a tool for organizing jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. The first version of ISCO was adopted in 1957 by the Ninth International Conference of Labour Statisticians (ICLS). The second version, ISCO-68 was adopted in 1966 and the third version, ISCO-88, in 1987. Though ISCO-88 was updated in December 2007 (ISCO-08), this report uses the classification of the ISCO-88 version, which defines the following major groups:

4. Legislators, senior officials and managers
5. Professionals
6. Technicians and associate professionals
7. Clerks
8. Service workers and shop and market sales workers
9. Skilled agricultural and fishery workers
10. Craft and related trades workers
11. Plant and machine operators and assemblers
12. Elementary occupations
13. Armed forces ⁽¹⁵¹⁾

Mature students (Figures 5.8, 5.9 and 5.32)

For the purposes of this report, mature students are defined as students aged 30 or more years old.

Median

The median is the middle value in a group of numbers ranked in order of size, thus dividing the group into two halves. In other words, it is the number in a range of scores that falls exactly in the middle so that 50 % of the scores are above and 50 % are below (Eurostat, 2018c). In this report, the EHEA median refers to the median of values among the EHEA countries where data are available.

Migrant status (Figure 5.6)

In the Eurostudent survey, students are classified according to their own and their parents' places of birth and the location of their latest educational attainment. Students are classified as international students if they possess a foreign higher education entry qualification or have left the school system for the first time abroad (regardless of their and their parents' birthplace). Students with a national higher educational entry qualification, or who have left the regular school system for the first time without a qualification in the country of the survey, are further categorised according to their own and their parents' places of birth. First generation students with national educational background were born abroad, as were at least one of their parents. Second generation students with national educational background have one (mixed) or two (foreign) parents who were not born in the country of the survey. The category "Other" comprises students who were born abroad, but have parents born in the country of survey. Students without migration background and national educational background were born in the country of survey, as were their parents.

Eurostat data (Figure 5.7) only makes a distinction between the foreign-born and the native-born population, without reference to migrant status.

⁽¹⁵¹⁾ For more details on the ISCO classification, see: <http://www.ilo.org/public/english/bureau/stat/isco/> [Accessed 8 March 2018].

New entrants (Figures 5.1, 5.3 and 5.4)

New entrants to a level of education are students who, during the course of the reference school or academic year, enter for the first time any programme in a given level of education, irrespective of whether the students enter the programme at the beginning or at an advanced stage of the programme (e.g. by virtue of credits gained for relevant work experience or courses taken at another level of education) (UNESCO, OECD and Eurostat 2016, p. 36).

Odds ratio (Figures 5.29 and 5.31)

The odds ratio refers to the ratio of the likelihood that an event may occur in one group in comparison to its likelihood ratio in another group. An odds ratio of 1 indicates that the condition or event under study is equally likely to occur in both groups. An odds ratio greater than 1 indicates that the condition or event is more likely to occur in the first group. And an odds ratio less than 1 indicates that the condition or event is less likely to occur in the first group. An odds ratio is calculated in the following way (probabilities of the event in each of the groups are p_1 (first group) and p_2 (second group)): $(p_1/(1-p_1))/(p_2/(1-p_2))$.

Outward mobility rate (Figures 7.12, 7.13, 7.16, 7.17, 7.18 and 7.21)

Outward mobility rate refers to students (enrolment or graduates) from a country of origin studying abroad (outwardly mobile students) as a percentage of the total number of students with the same country of origin.

Percentile

The percentile X (with $X \geq 0$ and ≤ 100) of a sampled variable is the value of the variable under which are X per cent of the observations in the sample. For example, a percentile 25 (denoted P25) of EUR 1 000 for an income variable means that 25 % of people in that sample earn less than EUR 1 000. Percentile 0 is the minimum, and P100 the maximum. The median is percentile 50 (Eurostat and Eurostudent 2009, p. 129).

Purchasing power parity (PPP)

A currency conversion rate which converts economic indicators expressed in a national currency into an artificial common currency that equalises the purchasing power of different national currencies. In other words, PPP eliminates the differences in price levels between countries in the process of conversion to an artificial common currency, called Purchasing Power Standard (PPS).

Purchasing power standard (PPS) (Figures 1.12, 1.14, 6.6 and 6.7)

The artificial common reference currency unit used in the European Union to express the volume of economic aggregates for the purpose of spatial comparisons in such a way that price level differences between countries are eliminated. Economic volume aggregates in PPS are obtained by dividing their original value in national currency units by the respective PPP (Purchasing power parity). PPS thus buys the same given volume of goods and services in all countries, whereas different amounts of national currency units are needed to buy this same volume of goods and services in individual countries, depending on the price level.

Students enrolled as part-timers (Figures 2.21, 2.22 and 2.23)

Within the UOE data collection, the part-time/full-time classification is regarded as an attribute of student participation rather than as an attribute of the educational programmes or the provision of education in general. A part-time student is one who is enrolled in an education programme whose intended study load is less than 75 % of the normal full-time annual study load (UNESCO-UIS, OECD and Eurostat 2016, p. 27).

Tertiary education (as defined within the ISCED classification)

Tertiary education builds on secondary education, providing learning activities in specialised fields of education. It aims at learning at a high level of complexity and specialisation. Tertiary education includes what is commonly understood as academic education but also includes advanced vocational or professional education. It comprises ISCED levels 5, 6, 7 and 8, which are labelled as short-cycle tertiary education, Bachelor's or equivalent level, Master's or equivalent level, and doctoral or equivalent level, respectively. The content of programmes at the tertiary level is more complex and advanced than in lower ISCED levels.

Unemployment rate and unemployment ratio (Figures 6.1, 6.2, 6.3, 6.4 and 6.5)

An unemployed person is defined by Eurostat, according to the guidelines of the International Labour Organization, as:

- someone aged 15 to 74 (in Italy, Spain, the United Kingdom, Iceland, Norway: 16 to 74 years);
- without work during the reference week;
- available to start work within the next two weeks (or has already found a job to start within the next three months);
- actively having sought employment at some time during the last four weeks.

The unemployment rate is the number of people unemployed as a percentage of the labour force (Eurostat, 2018d).

The *unemployment ratio* is the number of people unemployed as a percentage of the total population.

Vertical mismatch (Figure 6.12)

Refers to a situation in which the level of education or skills is less or more than the required level of education or skills (Cedefop 2010, p. 13). Regarding Figure 6.12, vertical mismatch refers to the situation in which people with tertiary qualifications have jobs not requiring this qualification level.

IV. Data sources

BFUG data collection

This direct data collection based on two questionnaires (an Excel questionnaire and an on-line questionnaire) was aimed at collecting information for the present report. The reference year was the academic year 2016/17. The questionnaires primarily focused on qualitative information, and consisted of several parts covering the following areas:

- contextual data;
- learning and teaching;
- degree structures, qualifications, and Bologna tools;
- quality assurance;
- social dimension policies and measures;
- fees, support and portability;
- employability;
- internationalisation and mobility.

When filling in the questionnaires, the Bologna Follow-Up Group representatives were asked to consult all the relevant actors/stakeholders in their respective systems to ensure the highest degree of accuracy possible.

The information covered by the questionnaires was submitted by all signatory countries.

Bologna with Student Eyes 2018 (European Students' Union)

Reference year: 2018

Coverage: 38 EHEA countries, 43 National Unions of Students

Description:

With different methodological approaches, ESU has been reviewing the implementation of the Bologna Process since 2003 with the Bologna with Student Eyes (BWSE) publication, launched prior to each ministerial conference.

BWSE2018 explores the perception of implementation amongst ESU's members operating in EHEA countries and seeks to bring attention to the students' priorities and recommendations for the future of the Bologna Process.

The 2018 edition of the publication highlights the need for further implementation, the slow development within the field of social dimension and embraces the importance of respect for the fundamental values of the Bologna Process.

Classification of Functions of Government (COFOG)

The Classification of Functions of Government (COFOG) was developed by the Organization for Economic Cooperation and Development (OECD) and is published by the United Nations Statistical Division (UNSD).

COFOG is regarded as the appropriate basis to examine the structure of government expenditure. It is a 3-level classification with 10 'divisions' at the top level, each of which is broken down to about 6 'groups' at the next level of detail, which in turn are subdivided into 'classes'. Divisions describe the broad objectives of government, while groups and classes both define the means by which these broad objectives are achieved ⁽¹⁵²⁾.

EQAR/Eurydice survey to BFUG members

This data collection was undertaken through an on-line questionnaire. It aimed at collecting information to be presented in this report and used by EQAR on the legal frameworks allowing higher education institutions to choose a suitable EQAR-registered agency for external quality assurance processes. The reference year was the academic year 2016/17.

Questionnaires responses were submitted by national authorities in all signatory countries with the exception of Cyprus and the Holy See.

⁽¹⁵²⁾ For more details on the Classification of Functions of Government (COFOG), see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification_of_the_functions_of_government_\(COFOG\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification_of_the_functions_of_government_(COFOG)) [Accessed 8 March 2018].

EU Labour Force Survey (EU-LFS)

The EU-LFS is the largest European household sample survey providing quarterly and annual results on labour participation of people aged 15 and over as well as on persons outside the labour force. It covers residents in private households. The EU-LFS is an important source of information about the situation and trends in the EU labour market.

The EU-LFS currently covers thirty-four countries (participating countries) providing Eurostat with data from national labour force surveys: the 28 Member States of the European Union, three EFTA countries (Iceland, Norway and Switzerland), and three candidate countries, i.e. the former Yugoslav Republic of Macedonia, Montenegro and Turkey. The EU-LFS is conducted by the national statistical institutes in accordance with Council Regulation (EEC) No. 577/98 of 9 March 1998 and the data are centrally processed by Eurostat.

Each quarter around 1.7 million interviews are conducted throughout the participating countries to obtain statistical information for some 100 variables. Due to the diversity of information and the large sample size the EU-LFS is also an important source for other European statistics like Education statistics or Regional statistics.

The main statistical objective of the EU-LFS is to divide the resident population of working age (15 years and above) into three mutually exclusive and exhaustive groups – persons employed, unemployed and economically inactive persons – and to provide descriptive and explanatory data on each of these categories. Respondents are assigned to one of these groups according to international classification on the basis of the information obtained through the survey questionnaire, which principally relates to their actual activity within a particular reference week. The EU-LFS defines the resident population as persons living in private households.

The EU-LFS data collection covers demographic background, labour status, employment characteristics of the main job, hours worked, employment characteristics of the second job, time-related underemployment, search for employment, education and training, previous work experience of persons not in employment, situation one year before the survey, main labour status and income ⁽¹⁵³⁾.

Eurostudent VI survey

Reference year: 2016/17

Coverage: 28 EHEA countries

Description:

EUROSTUDENT couples a central coordination approach with a strong network of national partners in each participant country. The EUROSTUDENT consortium provides national contributors with the EUROSTUDENT core questionnaire, as well as extensive instructions for conducting the field phase at the national level, data cleaning and weighting, calculation of indicators, and data delivery.

The national research teams are chosen and funded by the participating national ministries. The national research teams are responsible for implementing a national student survey, delivering the data to the EUROSTUDENT VI data team in accordance with EUROSTUDENT conventions, and providing national interpretations of the delivered data. The delivered data are checked in a series of

⁽¹⁵³⁾ For more details on the EU-LFS, see: http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_labour_force_survey [Accessed 8 March 2018].

feedback loops for accuracy and comparability and are validated for publication by the national research team.

EUROSTUDENT conventions are the instruments used to ensure the comparability and quality of the data collected. Since the 1st round of EUROSTUDENT, these conventions have been continuously developed further and are the result of productive discussions during several project meetings, intensive seminars, and workshops which were organised by the EUROSTUDENT consortium. They are documented in several handbooks which are provided to all EUROSTUDENT partners as well as the interested public.

The EUROSTUDENT core questionnaire details the items, responses, and instructions to be used in the national surveys. The questionnaire handbook provides in-depth explanations of the purpose of each question and instructions on adapting it, if necessary, to the national context.

The EUROSTUDENT VI questionnaire handbook is available on the EUROSTUDENT website.

The questionnaire handbook also provides guidelines for the preparation and execution of the survey at the national level. It provides information on the EUROSTUDENT standard target group, sampling guidelines, as well as information on the survey organisation and method.

Target group:

The EUROSTUDENT target group includes all students who are – at the time of observation (usually: semester) – enrolled in any national study programme regarded to be higher education in a country. Usually that corresponds to ISCED levels 5, 6, and 7.

This means all students should be included regardless of:

Nationality – National and foreign students should be included, as long as they are studying for a full degree in the country of observation (and are not only obtaining a limited number of credits, e.g. as an Erasmus student).

Full-time/part-time status – Full-time, part-time, and/or correspondence students should be included as long as the study programmes the students are enrolled in offer a minimum of physical face-to-face interaction in lectures/classes (not only exams).

Character of the higher education institution (HEI) or study programme – General as well as professional orientations of HEIs and study programmes should be included, as long as the programmes and institutions are considered to be higher education in the national context.

Legal character of the HEI – Public and private institutions should be included, as long as private institutions are considered to be a regular part of the higher education system in the national context.

Excluded from the EUROSTUDENT target group are:

Students on (temporary) leave, i.e. students who have officially or non-officially interrupted their studies at the time of observation for whatever reason.

Students on credit mobility, short-term mobile students (e.g. Erasmus students), i.e. students who are currently studying in the country of observation (incoming) or who have currently left the country of observation (outgoing) for a short time period (e.g. one or two semesters) with the purpose of gaining only a relatively small number of credits.

Students in ISCED 8 study programmes (PhD – and doctoral programmes).

Students in distance learning study programmes which do not offer any physical face-to-face lecture period at all, but are solely based on written/online interaction (apart from exams).

Students at very specialised HEIs, e.g. military or police academies, or HEIs directly affiliated with one company. This might also include programmes providing training only for public administration.

Students in programmes classified as ISCED (2011) levels 5 or 6 which are not regarded to be higher education in the national context. This could encompass, for example, further vocational training programmes for Master crafts(wo)men, or upper secondary schools or post-secondary programmes not regarded as higher education.

EU-Statistics on Income and Living Conditions (EU-SILC)

The EU statistics on income and living conditions, abbreviated as EU-SILC, is the reference source for comparative statistics on income distribution and social inclusion in the European Union (EU). It is used for policy monitoring within the 'Open method of coordination (OMC)'.

EU-SILC was launched in 2003 on the basis of a gentlemen's agreement between Eurostat and six Member States (Austria, Belgium, Denmark, Greece, Ireland and Luxembourg) and Norway. It was formally launched in 2004 in fifteen countries and expanded in 2005 to cover all of the then EU-25 Member States, together with Norway and Iceland. Bulgaria launched EU-SILC in 2006 while Romania, Switzerland and Turkey introduced the survey in 2007. EU-SILC provides two types of annual data:

- cross-sectional data pertaining to a given time or a certain time period with variables on income, poverty, social exclusion and other living conditions;
- longitudinal data pertaining to individual-level changes over time, observed periodically over a four-year period.

EU-SILC is a multi-purpose instrument which focuses mainly on income. Detailed data are collected on income components, mostly on personal income, although a few household income components are included. However, information on social exclusion, housing conditions, labour, education and health information is also obtained.

EU-SILC is based on the idea of a common 'framework' and no longer a common 'survey'. The common framework defines

- the harmonised lists of target primary (annual) and secondary (every four years or less frequently) variables to be transmitted to Eurostat;
- common guidelines and procedures;
- common concepts (household and income) and classifications aimed at maximising comparability of the information produced.

The reference population in EU-SILC includes all private households and their current members residing in the territory of the countries at the time of data collection. Persons living in collective households and in institutions are generally excluded from the target population. Some small parts of the national territory amounting to no more than 2 % of the national population and the national territories may be excluded from EU-SILC. All household members are surveyed, but only those aged 16 and more are interviewed ⁽¹⁵⁴⁾.

⁽¹⁵⁴⁾ For more details on the EU-SILC, see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_\(EU-SILC\)_methodology_-](http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology_-)

Trends 2018 (European University Association)

Reference year: 2017

Coverage: 303 higher education institutions from 43 higher education systems

Description:

The Trends series has been published by the European University Association (EUA) and its predecessor organisation since the signing of the Bologna Declaration in 1999, with Trends 2018 presenting the eighth edition.

Trends provide an institutional perspective on higher education policy and institutional developments in Europe. Over the years, the focus of TRENDS has been changing. Whereas previous reports analysed mainly how the Bologna reforms have been implemented at the European universities, Trends 2015 discussed, amongst other themes, also developments in learning and teaching (L&T).

Trends 2018 research continues and further enhances this focus, and explores recent European policy developments and institutional strategies and practice on L&T.

UOE data collection on education and training systems (UOE)

The UNESCO Institute for Statistics (UIS-UNESCO), the Organisation for Economic Co-operation and Development (OECD) and the Statistical Office of the European Union (Eurostat) jointly provide internationally comparable data on key aspects of education and training systems through the annual UOE data collection.

For tertiary education the collection covers entrants (input), enrolments (stock) and graduates (output). Data on education expenditure and personnel is also provided. The data are broken down by educational level (using the ISCED classification), as well as by sex, age, sector and field of education. Separate tables provide information on mobile and foreign students and graduates by country of origin (as well as by level, sex and field of education).

Within the UOE data collection, Eurostat collects and disseminates data from the EU Member States, candidate countries and EFTA countries. The OECD collects data from other OECD countries (such as Australia, Canada, Japan and the United States), while the UIS-UNESCO collects data from other participating countries. The validated data are used by the three organisations (¹⁵⁵).

V. Notes on figures

Chapter 1

Figure 1.1: Number of students enrolled in tertiary education by ISCED level, 2014/15

Belgium: Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

Bosnia and Herzegovina, Bulgaria, Finland Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia: ISCED 5: not applicable.

Greece: ISCED levels are estimated.

Estonia and the former Yugoslav Republic of Macedonia: ISCED 5: not applicable according to Eurostat database.

Figure 1.2: Change in the total number of students enrolled in tertiary education between 2009/10 and 2011/12 and between 2012/13 and 2014/15

[introduction#Main_characteristics_of_EU-SILC](#) [Accessed 8 March 2018].

(¹⁵⁵) For more details on the UOE data collection, see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/UNESCO_OECD_Eurostat_\(UOE\)_joint_data_collection_%E2%80%93_methodology#Introduction](http://ec.europa.eu/eurostat/statistics-explained/index.php/UNESCO_OECD_Eurostat_(UOE)_joint_data_collection_%E2%80%93_methodology#Introduction) [Accessed 8 March 2018].

Belgium: 2013-2015 - Data on 'Independent private institutions' not included, except at ISCED 6 and 7. 2010-2012 - Data exclude the German-speaking Community. Data exclude students in private independent institutions.

Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia: 2013-2015 ISCED 5: not applicable.

Cyprus: 2010-2012 - Due to 2 years compulsory military service for men aged 18-20, some of them are not in education.

Greece: 2013-2015 ISCED levels are estimated.

Liechtenstein and Romania: 2010-2012 - ISCED 5B: not applicable.

Russia is not included in the analysis. Missing data for Bosnia and Herzegovina and Luxembourg for the 2009-2012 period.

Figure 1.3: Enrolment rates in tertiary education for the 18-34 years old (% of the total population aged 18-34), 2008/09, 2011/12, 2014/15

Germany: 2009: exclude ISCED 6.

Romania: 2010: Changes in classification at tertiary level.

Missing data for Montenegro (2012) and Albania, Andorra, Bosnia and Herzegovina, Greece, Kazakhstan, Luxembourg and Montenegro (2009).

Figure 1.6: Percentage change in the total number of academic staff between 2000 and 2016

Data referring to 2000, 2005 and 2010 covers academic staff at ISCED 1997 levels 5-6. Data referring to 2016 covers academic staff at ISCED 2011 levels 5-8. All data covers all types of higher education institutions (i.e. public, private government dependent and private government independent).

Belgium, the Czech Republic, Estonia, Germany, Italy, Latvia, the former Yugoslav Republic of Macedonia, Norway, Poland, Slovakia, Slovenia, Spain, Sweden and the United Kingdom are represented by 2015 data.

Figure 1.7: Academic staff by age groups (%), 2015

Data refers to academic staff at ISCED 2011 levels 5-8. It covers all types of higher education institutions (i.e. public, private government dependent and private government independent).

Greece and Turkey are represented by 2014 data.

Figure 1.8: Female academic staff (%), 2000 and 2016

Data refers to academic staff at ISCED 2011 levels 5-8.

Belgium, Croatia, Denmark, Estonia, France, Germany, Italy, Latvia, Luxembourg, the former Yugoslav Republic of Macedonia, Norway, Poland, Portugal, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom are represented by 2015 data. **Greece and Turkey** are represented by 2014 data.

Figure 1.9: Annual public expenditure on tertiary education as a % of GDP, total with R&D and total without R&D, 2014

Belgium: Expenditure in independent private institutions is not included

Countries not in the analysis: Andorra, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Greece, Liechtenstein, the former Yugoslav Republic of Macedonia and Montenegro.

Figure 1.10: Annual public expenditure on tertiary education as a % of total public expenditure, 2008, 2011, 2014

EHEA is the EHEA median. Countries are sorted by the share of annual public expenditure on tertiary education in 2014. Countries not in the analysis: Andorra, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Finland, Greece, Holy See, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Serbia, Turkey, and Ukraine. Missing data for Albania and Luxembourg in 2011 and 2008. The numbers from 2015 report for 2011-2012 do not match the numbers for 2011-2012 in this report.

Figure 1.11: Yearly changes in real public expenditure on tertiary education between year 2011 and year 2015 (price index 2010=100)

Countries not in the analysis – Bosnia and Herzegovina, Holy See, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia and Turkey. Missing data for Iceland (2011-2013), Albania, Andorra, Armenia, Azerbaijan, Georgia, Kazakhstan, Serbia, Ukraine (2014-2015).

Figure 1.12: Annual public and private expenditure on public and private tertiary education institutions, per full-time equivalent student in PPS, 2008, 2011, 2014

Austria: 2008: Payments from private entities other than households to public educational institutions are not available.

Belgium: Expenditure exclude independent private institutions for all years and the German-speaking Community for years 2008 and 2011. 2014 - Expenditure in independent private institutions is not included

Croatia: 2008: Capital expenditure from private educational institutions is not available. 2008: Expenditure for compensation of personnel in private educational institutions is not available. 2008 and 2011: Payments from international agencies and other foreign sources to independent private educational institutions are not available. 2008: Expenditure for independent private

educational institutions is not available.

Denmark: Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education. R&D expenditure is not available. 2011: Payments from other private entities to educational institutions are not available.

Poland: Payments from other private entities to educational institutions are not available. 2008: Payments from international agencies and other foreign sources to educational institutions are not available.

Portugal: Expenditure at local level of government is not available. 2008 and 2011: Expenditure of post-secondary non-tertiary level of education is partially included in upper secondary and tertiary level of education. 2008: Imputed retirement expenditure is not available; Payments from international agencies and other foreign sources to educational institutions are not available.

Slovakia: Expenditure of ISCED 5B is not included. 2008: Expenditure for independent private educational institutions is not available. Payments from international agencies and other foreign sources to private educational institutions are not available.

Slovenia: 2008: Capital expenditure from private educational institutions is not available.

Spain: 2008: Expenditure for ancillary services is not available.

United Kingdom: 2008-2011: Adjustment of educational expenditure of financial year that is running from 1 April to 31 March, to the calendar year.

Countries not in the analysis – Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Belarus, Georgia, Greece, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Switzerland and Ukraine. Missing data for Denmark (2014), Hungary, Ireland, Luxembourg, Serbia (2011), and Hungary, Ireland, Luxembourg, Turkey, Romania and Serbia (2008).

Figure 1.13: Annual public expenditure on public and private tertiary education institutions per full-time equivalent student in euro, 2014

Countries not included in the analysis – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Russia, Georgia, Greece, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro and Ukraine.

Figure 1.14: Annual public and private expenditure on public and private education institutions on tertiary education per full-time equivalent student in PPS relative to the GDP per inhabitant in PPS, 2008, 2011 and 2014

Austria: 2008: Payments from private entities other than households to public educational institutions are not available.

Belgium: Expenditure exclude independent private institutions for all years and the German-speaking Community for years 2008 and 2011.

Croatia: 2008: Capital expenditure from private educational institutions is not available. 2008: Expenditure for compensation of personnel in private educational institutions is not available. 2008 and 2011: Payments from international agencies and other foreign sources to independent private educational institutions are not available. 2008: Expenditure for independent private educational institutions is not available.

Denmark: Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education. R&D expenditure is not available. 2011: Payments from other private entities to educational institutions are not available.

Iceland: 2008: Expenditure for ancillary services, payments from other private entities to educational institutions and payments from international agencies and other foreign sources to educational institutions are not available. 2008: Capital expenditure from private educational institutions is not available. 2011: R&D expenditure is not available.

Norway: 2008: Payments from other private entities to educational institutions are not available. Payments from international agencies and other foreign sources to educational institutions are not available.

Poland: Payments from other private entities to educational institutions are not available. 2008: Payments from international agencies and other foreign sources to educational institutions are not available.

Portugal: Expenditure at local level of government is not available. 2008 and 2011: Expenditure of post-secondary non-tertiary level of education is partially included in upper secondary and tertiary level of education. 2008: Imputed retirement expenditure is not available; Payments from international agencies and other foreign sources to educational institutions are not available.

Slovakia: Expenditure of ISCED 5B is not included. 2008: Expenditure for independent private educational institutions is not available. Payments from international agencies and other foreign sources to private educational institutions are not available.

Slovenia: 2008: Capital expenditure from private educational institutions is not available.

Spain: 2008: Expenditure for ancillary services is not available.

United Kingdom: 2008-2011: Adjustment of educational expenditure of financial year, that is running from 1st of April to 31 March, to the calendar year.

Countries missing in the analysis: for 2008 – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Greece, Hungary, Ireland, Kazakhstan, Liechtenstein, Luxembourg, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Romania, Russia, Serbia, Switzerland, Turkey and Ukraine; for 2011 – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Greece, Hungary, Ireland, Kazakhstan, Liechtenstein, Luxembourg, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Serbia, Switzerland, Turkey and Ukraine; for 2014 – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Denmark, Georgia, Greece, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Switzerland, Turkey and Ukraine.

Chapter 2

Figure 2.1: Expectations towards higher education institutions specified in national learning and teaching strategies (% of institutions reporting that there is a national strategy in place), 2017

Data source: Trends 2018 (European University Association)

Question: Q.8.1: What does this national strategy imply? Higher education institutions are expected...

Coverage: The question was only answered by those institutions that reported the presence of a national learning and teaching strategy, or a national higher education strategy, which includes learning and teaching among other matters (234 institutions out of 301 institutions that replied to the question).

Figure 2.2: Elements included in institutional learning and teaching strategies (% of institutions reporting that there is an institutional strategy in place), 2017

Data source: Trends 2018 (European University Association)

Question: Q.9.1: What elements does your institutional L&T strategy/policy address or include?

Coverage: The question was only answered by those institutions that indicated the presence of an institutional strategy on teaching and learning, including respondents referring to strategies at faculty/department level (260 institutions out of 303 institutions that replied to the question).

Figure 2.8: Impact of the learning outcomes approach in higher education institutions (% of institutions), 2017

Data source: Trends 2018 (European University Association)

Question: Q.22.1: What effect on the institution has the introduction of learning outcomes had so far?

Coverage: The figure was calculated on a basis of replies from 264 higher education institutions. It shows the percentage of institutions that answered 'Yes, this is the case' or 'Yes, to some extent' to specific items in this question. Answers 'No impact' and 'Don't know/No opinion' are not shown in the figure.

Figure 2.11: Training for higher education teaching staff in developing learning outcomes (% of institutions), 2017

Data source: Trends 2018 (European University Association)

Question: Q.39: Please indicate how teachers receive training in developing learning outcomes.

Coverage: The figure was calculated on a basis of replies from 285 higher education institutions.

Figure 2.14: Use of ECTS for credit accumulation and transfer by all higher education institutions, first- and second-cycle programmes, students' perspective, 2016/17

Data source: ESU data collection (Bologna with Student Eyes 2018 (European Students' Union))

Question: 2.2. In first and second cycle programmes, in your country, ECTS is used as a ... 'credit accumulation system within higher education institutions'; 'credit transfer system for student learning outcomes acquired in another institution in the country', 'credit transfer system for periods of study abroad'.

Figure 2.15: Elements used for the calculation of ECTS points in public higher education institutions, students' perspective, 2016/17

Data source: ESU data collection (Bologna with Student Eyes 2018 (European Students' Union))

Question: 2.1. Which elements are used in the calculation of ECTS points in your country?

Figure 2.17: Provision of part-time programmes or other alternative study forms by higher education institutions, 2016/17

Albania: According to the new Law on Higher Education (October 2015), higher education institutions can offer only 'full-time' study programmes. However, they can offer 'extended form of study', but only for short-cycle study programmes (post-secondary), Professional Master and Executive Master. According to the higher education law, extended form of study means that the duration of studies does not exceed the double normal time of the respective study programme. At present, Albania is in a transitory phase: higher education institutions are reorganising their study programmes as foreseen in the abovementioned law, while students enrolled before 2015 will finish their studies with the same status they entered in. Thus some phasing out students with part-time status could be found among the majority of full-time students.

Figure 2.21: Median of country percentages of students enrolled as part-timers in tertiary education, by age, 2014/15

Data source: Eurostat, [specific extraction from Eurobase: file 'ENRL3_AGE&P'] and additional collection for the other EHEA countries.

Albania, Azerbaijan, Kazakhstan, Moldova and Ukraine: data are missing for ages 45+.

Belgium: Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

Greece: ISCED levels are estimated.

Coverage: Albania, Andorra, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Denmark, Estonia, Finland, Germany, Hungary, Kazakhstan, Iceland, Ireland, Latvia, Liechtenstein, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom.

Figure 2.22: Students enrolled as part-timers in tertiary education, by country and by age (%), 2014/15

Data source: Eurostat, [specific extraction from Eurobase: file 'ENRL3_AGE&P'] and additional collection for the other EHEA countries.

Albania: Missing values for ISCED 5.

Austria, Greece, Italy, Serbia and Turkey: Not applicable.

Belgium: Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

Cyprus, Czech Republic and France: Not available.

Kazakhstan: Data cover ISCED level 6.

Figure 2.23: 25, 50 and 75 percentile of countries according to the percentage of students enrolled as part-timers in tertiary education, by year, 2005-2015

Data source: Eurostat, [educ_enr1ad] and [educ_uae_enrt01] and additional collection for the other EHEA countries.

Belgium: Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

Coverage: Albania, Andorra, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Kazakhstan, Latvia, Liechtenstein, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom.

Figure 2.24: Students qualifying themselves as full-timers (%), 2016/17

Data source: EUROSTUDENT VI, C.5.

Countries in which no formal part-time status exists: Austria, Denmark, France, Georgia, Serbia and Turkey.

Countries which did not include part-time students in sample: Albania and Latvia.

No data: Italy.

EUROSTUDENT question(s): 1.5 What is your current formal status as a student?

Deviations from EUROSTUDENT conventions: the Czech Republic, Italy, Romania and Switzerland.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Comments from national research teams on EUROSTUDENT data on part-time students:

Albania: According to the new Law on Higher Education (October 2015), higher education institutions can offer only 'full-time' study programmes. However, they can offer 'extended form of study', but only for short-cycle study programmes (post-secondary), Professional Master and Executive Master. According to the higher education law, extended form of study means that the duration of studies does not exceed the double normal time of the respective study programme. At present, Albania is in a transitory phase: higher education institutions are reorganising their study programmes as foreseen in the abovementioned law, while students enrolled before 2015 will finish their studies with the same status they entered in. Thus some phasing out students with part-time status could be found among the majority of full-time students.

Czech Republic: We assume part-time students as those who are studying during the weekend etc. Full-time students go to school on daily basis.

Slovenia: Part-time students, unlike full-time students in 1st and 2nd cycle studies, have to pay (higher) tuition fees. Regarding the part-time studies, Article 37 of Higher Education Act states, that '...the organisation and schedule of lectures, seminars and practical exercises may be adapted to the possibilities of students (e.g. part-time studies)'. This shall be done in the manner and under the procedure laid down by the statute. Full-time study in Slovenia is study with a full load, i.e. 60 ECTS per year. It can be payable or unpayable. In case of 'part-time stud' the organization and schedule of lectures, seminars and exercises may be adapted to the possibilities of students – however, 'part-time study' still leads to 60 ECTS per year and is payable. Students, irrespective of whether the study is provided full-time or part-time, have the right to health care and other benefits and rights (e.g. food, transport, grants) in accordance with special regulations provided they are not in full-time employment or registered job seekers.

Sweden: The students course registrations defines if the student is a full-time student or not. The study pace is stated as a percentage of average credits per week throughout the course period. 1,5 ECTS credits per week = 100 % (and 30 credits per semester). A course comprising of 15 credits over a given term corresponds to a study pace of 50 % on this specific course. If the students are registered to more than one course during the same period, the total course registration credits for the period will define if the student is a full-time student or not. In Sweden distance studies and on-campus studies are also registered in the study administrative system. Of the students that only studied distance courses in the academic year 2015/2016, more than 71 percent studied free-standing courses. For students studying on campus the relationship was the reverse, 76 percent were programme students.

Turkey: In Turkey there are 'İkinci Öğretim Programı' in Turkish in higher education ('Evening Education Programme' in English) within the framework of the law 3843. According to this Law, Evening Education is defined as the formal education when the normal formal education (daytime education) has been completed in higher education institutions. There is no difference between Formal Education and Evening Education in terms of period of study, study guidelines for associate's degree and bachelor's degree levels, attendance, number of mid-term examinations, contribution to the success grade, implementation and make-up examination conditions, and other issues regarding education and training [these fall under the category 'other'].

Figure 2.25: Part-time students according to their study intensity (self-reported) as % of students in different study intensity groups, 2016/17

Data source: EUROSTUDENT VI, C.5.

Countries in which no formal part-time status exists: Austria, Denmark, France, Georgia, Serbia and Turkey.

Countries which did not include part-time students in sample: Albania and Latvia.

No data: Italy.

EUROSTUDENT question(s): 1.5 What is your current formal status as a student?

Deviations from EUROSTUDENT conventions: the Czech Republic, Italy, Romania and Switzerland.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 2.33: Trends in higher education institutions regarding digital learning, last three years (% of institutions), 2017

Data source: Trends 2018 (European University Association)

Question: Q.25: What are the main trends at your institution regarding digital learning in the last three years?

Coverage: The figure was calculated on a basis of replies from 293 higher education institutions. The figure shows the percentage of institutions that answered 'Yes, this is the case' or 'Yes, to some extent' to specific items in this question. Answers 'No' and 'Information unavailable' are not shown in the figure.

Figure 2.34: Formal or most common requirements for holding higher education positions with teaching responsibilities (% of institutions), 2017

Data source: Trends 2018 (European University Association)

Question: Q.34: In your institution, what formal or most common requirements are needed for holding one of the positions below with teaching responsibilities?

Coverage: The figure was calculated on a basis of replies from 303 higher education institutions.

Figure 2.36: Measures to promote and develop teaching skills of academics (% of institutions), 2017

Data source: Trends 2018 (European University Association)

Question: Q.38: Has there been a systematic effort to establish the following at your institution?

Coverage: The figure was calculated on a basis of replies from 287 higher education institutions. The figure shows the percentage of institutions that answered 'Yes' to specific items in this question. Answers 'No, but we are planning to do this', 'No' and 'Information unavailable' are not shown in the figure.

Figure 2.37: Means of assessment/enhancement of teaching in place throughout the institution (% of institutions), 2017

Data source: Trends 2018 (European University Association)

Question: Q.36: Which of the following means and criteria are used for the assessment of teaching?

Coverage: The figure was calculated on a basis of replies from 289 higher education institutions. The figure shows the percentage of institutions that answered 'Yes, throughout the institution' to specific items in this question. Answers 'Yes, in some parts of the institution', 'No, but we are planning to do it' and 'No, we do not use this' are not shown in the figure.

Figure 2.38: Students' satisfied with quality of teaching in their current study programme (%), 2016/17

Data source: EUROSTUDENT VI, J.29.

No data: Austria, Germany, Italy, Switzerland and Turkey.

EUROSTUDENT Question(s): 1.9 How satisfied are you regarding the following aspects of your current (main) study programme?

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 2.39: Students agreeing with the statement that their teachers inspire them (%), 2016/17

Data source: EUROSTUDENT VI, J.15.

No data: Austria, France, Germany, Italy, Switzerland and Turkey.

EUROSTUDENT Question(s): 1.13 To what extent do you agree with the following statements? - My teachers inspire me.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Chapter 3

Figure 3.1: Distribution of students enrolled in ISCED 5-8 programmes, 2014/15

Data source: Eurostat, [educ_uae_enrt02] and additional collection for the other EHEA countries.

Belgium: Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

Bosnia and Herzegovina, Bulgaria, Finland Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia: ISCED 5: not applicable.

Estonia and the former Yugoslav Republic of Macedonia: ISCED 5: not applicable according to Eurostat database.

Greece: ISCED levels are estimated.

Figure 3.2: Share of first cycle-programmes with a workload of 180, 210, 240 or another number of ECTS credits, 2016/17

Coverage: No data for the United Kingdom (England, Wales and Northern Ireland).

Figure 3.3: Share of second-cycle programmes with a workload of 60-75, 90, 120 or another number of ECTS credits, 2016/17

Coverage: No data for Greece and the United Kingdom (England, Wales and Northern Ireland).

Chapter 4

Figure 4.5: European Student Unions perception of student participation in external quality assurance, 2016/17

Data source: ESU data collection (Bologna with Student Eyes 2018 (European Students' Union))

Questions: 3.2. Is there a requirement that students are involved in external quality assurance review teams?

Figure 4.11: Scorecard indicator n°7: Level of openness to cross border quality assurance of EQAR registered agencies, 2016/17

Data source: EQAR/Eurydice survey to BFUG members, 2017.

Chapter 5

Figure 5.1: Relationship between the educational background of first-cycle new entrants (ISCED 6) and the educational attainment of their parents' cohort (population aged 45-64), 2016/17

Data source: Eurostat, EU-LFS (Population by educational attainment level, sex and age: edat_lfse_03).

Luxembourg: Data not reliable for proportions of the population aged 45-64 with different educational attainment levels.

Figure 5.2: Percentage of delayed transition students among students with/without higher education background, 2016/17

Data source: EUROSTUDENT VI, B.4.

No data: Malta.

EUROSTUDENT Question(s): 2.3 How long after leaving the #regular school system for the first time did you enter higher education for the first time?

Deviations from EUROSTUDENT survey conventions:

Austria: Only national students.

France: Delay calculated using the moment of graduation from high school and the first entering into an higher education institution.

Germany: Delay calculated based on month and year of obtaining #matura or foreign equivalent.

Hungary: Delay calculated using additional questions about the high school type, year of maturation and starting year of higher education studies.

Switzerland: Information from national register of students (Swiss University Information System); duration of transition into higher education is approximated.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 5.3: Percentage of women among new entrants in tertiary education in 2004/05 and 2014/15

Data source: Eurostat, [educ_entr2tl] and [educ_uae_ent01] and additional collection for the other EHEA countries.

Albania and Estonia: 2015 - ISCED 5 not available

Belgium, Ireland and Poland: 2005 - ISCED 6 not included.

Belgium and Malta: 2015 - ISCED 8 not available

Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia: 2015 - ISCED 5: not applicable.

Croatia: 2005 – not significant data.

Finland: 2005 - ISCED 5B not applicable.

Finland and the Netherlands: 2005 ISCED 6 not included.

France: 2005 – missing data. 2015 - ISCED 5, 6 and 7 are not available

Germany: 2005 ISCED 6 not included.

Italy: 2005: ISCED 5B not significant.

Luxembourg, Latvia and Portugal: 2005 – missing data.

The Netherlands: 2005 - ISCED 5B not applicable.

Figure 5.4: Percentage of women among new entrants in tertiary education by level of education, 2014/15

Data source: Eurostat, [educ_uae_ent01] and additional collection for the other EHEA countries.

Albania and Estonia: ISCED 5 not available

Belgium and Malta: ISCED 8 not available

Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia: ISCED 5: not applicable.

France: ISCED 5, 6 and 7 are not available

Figure 5.5: Median percentage of women among enrolled students in Bologna structures by field of education and level of Bologna structure (first and second cycle, ISCED 6 and 7), 2014/15

Data source: Eurostat, [educ_uae_enrt03] and additional collection for the other EHEA countries.

Country coverage ISCED 6:

Education: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Turkey, the United Kingdom, Spain, Switzerland, Ukraine.

Arts and humanities: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, Georgia, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Social sciences, journalism and information: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Spain, Switzerland, Turkey, Ukraine, the United Kingdom.

Business, administration and law: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Spain, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Serbia, Sweden, Switzerland, Turkey, the United Kingdom, Ukraine.

Natural sciences, mathematics and statistics: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Information and communication technologies: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Engineering, manufacturing and construction: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Agriculture, forestry, fisheries and veterinary: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Georgia, Germany, Denmark, Estonia, Finland, France, Hungary, Kazakhstan, Iceland, Italy, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Health and welfare: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Georgia, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Services: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Kazakhstan, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Country coverage ISCED 7:

Education: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia,

Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Arts and humanities: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Georgia, Hungary, Iceland, Italy, Kazakhstan, Lithuania, Luxembourg, Latvia, the former Yugoslav Republic of Macedonia, Malta, Moldova the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Social sciences, journalism and information: Austria, Albania, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Business, administration and law: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Natural sciences, mathematics and statistics: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Information and communication technologies: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Engineering, manufacturing and construction: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, Ukraine.

Agriculture, forestry, fisheries and veterinary: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Health and welfare: Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Kazakhstan, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

Services: Austria, Albania, Azerbaijan, Belgium, Bulgaria, Bosnia and Herzegovina, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France Georgia, Germany, Hungary, Iceland, Kazakhstan, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom.

Figure 5.6: Composition of students by migration background (%), 2016/17

Data source: EUROSTUDENT VI, A.4.

No data: Italy and Romania. International students: Germany.

EUROSTUDENT Question(s): 5.3 In which country were you and your parents (or those who raised you) born? 2.0 Do you have a standard entrance qualification or foreign equivalent? 2.2 [only students without Matura] Where did you last attend the regular school system

Notes: Sum of categories may deviate from 100 due to rounding.

Deviations from EUROSTUDENT survey conventions: Germany: no international students included in sample.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 5.7: Participation rates in tertiary education among persons aged 18-29, foreign-born, native-born and total population (%), 2016

Data source: Eurostat, EU-LFS.

Bulgaria, Estonia, Lithuania, Malta, Romania and Slovakia: Not reliable and not publishable for foreign born.

Croatia, Latvia, the former Yugoslav Republic of Macedonia, Poland and Slovenia: Not reliable for foreign born.

Figure 5.8: Percentage of students enrolled in tertiary education, 30 or more years old, in 2011/12 and 2014/15

Data source: Eurostat, [educ_enr11t] and [educ_uae_enr02] and additional collection for the other EHEA countries.

Belgium: 2013-2015 - Data on 'Independent private institutions' not included, except at ISCED 6 and 7. 2010-2012 - Data exclude the German-speaking Community. Data exclude students in private independent institutions.

Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia: 2013-2015 ISCED 5: not applicable.

Cyprus: 2010-2012 - Due to 2 years compulsory military service for men aged 18-20, some of them are not in education.

Greece: 2013-2015 ISCED levels are estimated.

Liechtenstein and Romania: 2010-2012 - ISCED 5B: not applicable.

Figure 5.9: Percentage of delayed transition students among respondents 30 or more years old, 2016/17 and 2013/14

Data source: EUROSTUDENT VI, B.4.

No data: Malta. Too few cases: Albania.

EUROSTUDENT Question(s): 2.3 How long after leaving the #regular school system for the first time did you enter higher education for the first time?

Deviations from EUROSTUDENT survey conventions:

Austria: Only national students.

France: Delay calculated using the moment of graduation from high school and the first entering into an higher education institution.

Germany: Delay calculated based on month and year of obtaining #matura or foreign equivalent.

Hungary: Delay calculated using additional questions about the high school type, year of maturation and starting year of higher education studies.

Switzerland: Information from national register of students (Swiss University Information System); duration of transition into higher education is approximated.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 5.16: Percentage of students entering higher education through standard and alternative routes, 2016/17

Data source: EUROSTUDENT VI, B.5 & B.9.

No data: Finland, Italy and Turkey. Too few cases: Slovakia (for delayed and alternative access routes).

EUROSTUDENT Question(s): 2.0 Do you have a #general precondition for HE access [named country-specific] or foreign equivalent? 2.1. [only students with country specific standard qualification] Did you obtain your #general precondition or foreign equivalent in direct relations (within 6 months) of leaving the #regular school [adapted nationally] system for the first time? 2.2 [only students without #general precondition for HE access] Where did you last attend the regular school system?

Deviations from EUROSTUDENT conventions:

Austria: All international students coded to have standard entry qualification, as the information was not asked.

Estonia: Entry into higher education without #Matura not possible in Estonia, so response option 'no, I do not have a #Matura' was not offered.

Hungary: Question 2.0 was asked in the English questionnaire only used by international students and not in the Hungarian version because regulations in Hungary only allow to apply for higher education studies for those having a matura. Questions 2.1 (Did you obtain your #Matura or foreign equivalent in direct relation (within 6 month) of leaving #regular school system for the first time?) & 2.2 (Where did you last attend the #regular school system?) were slightly altered in the Hungarian version as in most cases, finishing the high school in Hungary concurs with obtaining a matura. However, this combination of altered questions is unreliable when identifying students with a delayed transition or alternative access route. Thus, additional questions from the Hungarian questionnaire about the high school type, year of maturation and starting year of higher education studies were also employed during data cleaning process for calculating EUROSTUDENT-compatible indicators.

Switzerland: Information from national register of students (Swiss University Information System).

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 5.18: Percentage of first-cycle students who pay fees, 2016/17

Data source: EUROSTUDENT VI, F.171.

No data: Italy.

EUROSTUDENT Question: What are your average expenses for the following items during the current lecture period?

Notes: Fees include tuition fees, registration fees, examination fees, and administrative fees. Social welfare contributions to HEIs/student associations, learning materials, field trips should be excluded, but may have influenced students' perception.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 5.20: Most common amount of yearly fees for full-time home students as a percentage of GDP per capita, 2016/17

Data source: Authors' calculation based on Student Fee and Support Systems in Europe 2016/17 (European Commission/EACEA/Eurydice, 2016a), the BFUG questionnaire and World Bank. NY.GDP.PCAP.CN, Data from database: World Development Indicators, Last Updated: 09/18/2017

No data: Andorra, Bulgaria, Croatia, Cyprus (second cycle), Estonia, France, Germany, Greece (second cycle), Holy See, Latvia, Liechtenstein, Lithuania, the former Yugoslav Republic of Macedonia, Moldova, Poland, Russia, Slovakia, Slovenia and Turkey

Notes: Fees are understood as all fees charged – whether for tuition, enrolment, certification or other administrative costs, except contributions to student organisations. There are no fees: in the first cycle - Cyprus, Greece, Malta and the United Kingdom – Scotland; in the first and second cycles: Denmark, Finland, Norway and Sweden

Figure 5.21: Support to students enrolled at tertiary education level as a percentage of public expenditure on tertiary education, 2008, 2011, 2014

Data source: Eurostat, [educ_fiaid] and [educ_uoe_fina01].

Belgium: 2011: Expenditure exclude independent private institutions and the German-speaking Community. 2014 - Expenditure in independent private institutions is not included.

Bulgaria, Czech Republic and Estonia: 2008: Student loans from public sources are not applicable.

Croatia: 2008: Public transfers to private entities other than households are not available. 2011: Public transfers to private

entities at local level of government are not available.

Cyprus: 2008 - 2011: Including financial aid to students studying abroad.

Denmark: Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education.

Hungary: 2008 - Student loans from public sources are not available.

Iceland: Expenditure for ancillary services is not available.

Ireland: Expenditure for ancillary services is not available.

Portugal: 2008 - Expenditure at local level of government is not available. Imputed retirement expenditure is not available. Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education. 2008 – 2011 – Student loans from public sources are not available. 2011 - Expenditure at local level of government is not available, except for tertiary institutions.

Romania: 2008: data not available. The data published in the 2015 Bologna Implementation Report has been removed from the Eurostat database.

Slovakia: 2008-2011 - Expenditure at ISC 5B is included under upper secondary level of education.

Spain: 2008: Expenditure for ancillary services is not available.

United Kingdom: 2011: data is different from the data in the 2015 Bologna Implementation Report due to the revision of the UK data for the reference year 2011.

Figure 5.25: Percentage of fee-payers among recipients and non-recipients of public support, 2016/17

Data source: EUROSTUDENT VI, G.44.

No data: Finland.

EUROSTUDENT Questions: 3.3 What is the average monthly amount at your disposal from the following sources during the current lecture period? 3.4 What are your average expenses for the following items during the current lecture period?

Notes: Public support includes grants, loans, and scholarships from national public sources. Fees include tuition fees, registration fees, examination fees, and administrative fees. Social welfare contributions to HEIs/student associations, learning materials, field trips should be excluded, but may have influenced students' perception.

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Figure 5.27: Percentage of persons with tertiary education, by age group, 2013 and 2016

Data source: Eurostat, [edat_ifs_9903] and additional collection for the other EHEA countries.

Figure 5.28: Completion rates in ISCED 6 (first-cycle) programmes (%), 2014

Data source: OECD, Education at a Glance 2016, Table A9.2: Distribution of full-time students who entered a given educational level, by theoretical duration (N) and theoretical duration plus three years (N+3) (2014).

Belgium (Flemish Community): Data for 'Had not graduated and were not in education' refer to students who were not enrolled in either bachelor's or master's degrees or equivalent programmes. They could still be enrolled at other levels or in adult education.

Czech Republic: N+3 corresponds to N+2.

France: Data provided using a longitudinal survey and excludes international students.

Netherlands: In the Netherlands, a few students enter bachelor's or equivalent programmes and graduate from a long first degree within the theoretical duration of the original bachelor's or equivalent programme. They represent less than 0.001% of total new entrants and are included with 'Graduated from a long first degree' by N+3.

Figure 5.29: Attainment by gender: odds ratios of men over women to attain higher education, 2006-2016

Data source: Eurostat, [edat_ifs_9903] and additional collection for the other EHEA countries.

Country coverage: Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Figure 5.30: Percentage of female graduates in tertiary education programmes by level of education, 2014/15

Data source: Calculated based on Eurostat, [educ_uoe_grad03].

Figure 5.31: Tertiary education attainment of 25 to 34-year-olds by country of birth: odds ratio of native-born over foreign-born population to complete tertiary education, 2013 and 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Bulgaria, Romania and Slovakia: Not reliable and not publishable.

Georgia: Reference year is 2014 instead of 2016.

Lithuania and Poland: Not reliable.

Figure 5.32: Adults (30-64) who attained their tertiary education degree during adulthood (aged 30-64) as a percentage of all adults (30-64), 2013 and 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Georgia: Reference year is 2014 instead of 2016.

Chapter 6

Figure 6.1.A: Unemployment rate and unemployment ratio of people aged 20-34 by educational attainment level (%), 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Croatia and Lithuania: Not reliable for the category 'low educational attainment'.

Malta: Not reliable for the category 'high educational attainment'.

Figure 6.1.B: Unemployment rate of people aged 20-34 by educational attainment level (%), 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Bulgaria, Lithuania, Luxembourg, Malta, Norway and Slovenia: Not reliable for Bachelor's level.

Bulgaria, Latvia, Luxembourg, Norway and Romania: Not reliable for the Masters level.

Figure 6.2: Compound annual growth rate of unemployment by educational attainment (%), 2013-2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Croatia and Lithuania: Not reliable for the category 'low educational attainment'.

Malta: Not reliable for the category 'high educational attainment'.

Figure 6.3: Unemployment rate of people aged 20-34 by educational attainment level and by sex (%), 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Bulgaria, Croatia (male), Czech Republic (male), Estonia, Hungary (male), Latvia (male) and Luxembourg: Not reliable for the category 'high educational attainment'.

Malta (male): Not reliable for the category 'medium educational attainment'.

Island, Lithuania and Malta: Not reliable and not publishable for the category 'high educational attainment'.

Island and Malta (female): Not reliable and not publishable for the category 'medium educational attainment'.

Island and Lithuania: Not reliable and not publishable for the category 'low educational attainment'.

Figure 6.4: Unemployment rate of tertiary education graduates aged 20-34, by the number of years since graduation (%), 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Bulgaria, Croatia, Czech Republic, Estonia, Hungary and Luxembourg: Not reliable for the category 'more than 3 years'.

Bulgaria, Estonia, Luxembourg and Malta: Not reliable for the category '3 years or less'.

Island (more than 3 years), Lithuania and Malta (more than 3 years): Not reliable and not publishable.

Figure 6.5: Unemployment rate of tertiary education graduates aged 20-34, by the number of years since graduation and by sex (%), 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Austria, Croatia, Czech Republic, Denmark (male), Finland (male), Latvia (female), the Netherlands, Norway, Poland (male), Romania, Slovenia and Switzerland (male): Not reliable for the category 'more than 3 years'.

Bulgaria, Estonia, Hungary (male), Iceland, Latvia (male), Lithuania, Luxembourg (male) and Malta: Not reliable and not publishable for the category '3 years or less'.

Bulgaria, Estonia, Hungary, Iceland, Latvia (male), Lithuania, Luxembourg and Malta: Not reliable and not publishable for the category 'more than 3 years'.

Croatia, Czech Republic (male), Hungary (female), Luxembourg (female), Norway (female), Romania and Slovenia (male): Not reliable for the category '3 years or less'.

Figure 6.7: Ratio of median annual gross income of employees with tertiary education to the median annual gross income of employees with lower levels of education, 2013 and 2015

Data source: Eurostat, EU-SILC (Statistics on Income and Living conditions).

Moldova: Reference year is 2016 instead of 2015.

Figure 6.8: At-risk-of-poverty rate by educational attainment for people aged 25-34 by education level, 2015

Data source: Eurostat, EU-SILC (Statistics on Income and Living conditions), specific extraction.

Moldova: Reference year is 2016 instead of 2015.

Figure 6.11: Distribution of people with tertiary education (ISCED 5-6) aged 25-34 and employed in ISCO 1 or 2 (legislators, senior officials, managers and professionals), in ISCO 3 (technicians and associate professionals) and in ISCO 4-9, by sex (%)

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Croatia (female): Not reliable for the category 'ISCO 3'.

Luxembourg (female): Not reliable for the category 'ISCO 4-9'.

Figure 6.12: Percentage of people aged 25-34 with tertiary education (ISCED 5-6) who are vertically mismatched (in ISCO 4-9) by field of study, 2016

Data source: Eurostat, EU-LFS and additional collection for the other EHEA countries.

Country coverage:

Education: Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Germany, Greece, Hungary, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Sweden, Spain, Switzerland, Turkey, the United Kingdom.

Arts and humanities: Austria, Belgium, Croatia, Cyprus, the Czech Republic, Germany, Denmark, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Social sciences, journalism and information: Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Business, administration and law: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Germany, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Natural sciences, mathematics and statistics: Belgium, Cyprus, Czech Republic, Germany, Greece, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Information and Communication Technologies: Belgium, Cyprus, Germany, France, Greece, Hungary, Ireland, Italy, the former Yugoslav Republic of Macedonia, Poland, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Engineering, manufacturing and construction: Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Greece, Croatia, Hungary, Ireland, Italy, Lithuania, Latvia, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia, Turkey, the United Kingdom.

Agriculture, forestry, fisheries and veterinary: Austria, Belgium, Czech Republic, France, Germany, Greece, Hungary, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Health and welfare: Belgium, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Services: Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Figure 6.13: Students' self-assessment of their chances on the national and international labour market based on the competences gained during studies (for all students and/or different focus groups), 2017

Data source: EUROSTUDENT VI, J.3

No data: Germany, Italy, Switzerland, Turkey

EUROSTUDENT Question(s): 1.12 Regarding the competences gained during your current study programme: How well do you think you are prepared for the labour market after graduating?

Notes: Students responded on a five-point scale ranging from 'very well' to 'very poorly'. Values shown are aggregated across categories 1 + 2 (very) well

Chapter 7

EHEA countries use multiple definitions to identify and report mobile students. Before 2013 the UOE data collection defined mobile students as foreign students (non-citizens of the country in which they study) who have crossed a national border and moved to another country to study. Starting from 2013 reference year the UOE definition is based on the country of origin understood as the country where the upper secondary diploma was awarded (or the best national estimate) and not the country of citizenship. Twenty countries in the EHEA still use the foreign citizenship/nationality as criteria to define mobile students.

For the inward mobility to the EHEA from countries outside the EHEA information from all declaring countries in the world was considered. For the outward mobility from the EHEA towards countries outside the EHEA only the questionnaires from Australia, Canada, the United States, Japan and New Zealand were considered due to issues with data availability and quality.

Figure 7.10: Incoming degree mobility rate – tertiary education mobile students from the EHEA and from outside the EHEA studying in the country as a percentage of the total number of students enrolled, by country of destination, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, Greece, France, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Norway: Change in the definition of mobile student since UOE 2014 (2012/13).

Figure 7.11: Number of incoming degree tertiary education mobile students from inside and outside the EHEA, by country of destination, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bulgaria, Bosnia and Herzegovina, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Norway: Change in the definition of mobile student since UOE 2014 (2012/13).

Figure 7.12: Number of outward degree tertiary education students inside and outside the EHEA by country of origin, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Figure 7.13: Outward degree mobility rate – mobile tertiary education graduates within the EHEA as a percentage of all graduates of the same country of origin, by country of origin, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile graduated students is the citizenship.

Andorra, France, Greece, Iceland, Slovakia and Georgia: Missing data.

Poland: ISCED 8 is not included in the graduated students.

Spain: Only including value from ISCED 6 and 7.

Figure 7.14: Share of degree mobile graduates from abroad by education level, sex and country of origin, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile graduated students is the citizenship.

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Belarus, France, Georgia, Greece, Iceland and Kazakhstan, Liechtenstein, Moldova, Montenegro, Russia and Ukraine: Missing data.

Poland: ISCED 8 is not included in the graduated students.

Spain: Only including value from ISCED 6 and 7.

Figure 7.15: Share of tertiary students enrolled abroad (degree mobility), by country of origin, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Figure 7.16: Outward degree mobility rate – tertiary education students studying abroad outside the EHEA as a percentage of the total number of students of the same country of origin, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Figure 7.17: Mobility balance: Incoming/outgoing tertiary students ratio within the EHEA, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Italy, Kazakhstan, Luxembourg, Hungary, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Norway: Change in the definition of mobile student since UOE 2014 (2012/13).

Figure 7.18: Mobility balance: Incoming/outgoing tertiary students ratio within and outside the EHEA, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Figure 7.19: Balance as a measure of the attractiveness of the education system of the country at tertiary education level (mobility flows within and outside EHEA), 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Figure 7.20: Student mobility flows: Top three countries of origin (inward) in %, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Kazakhstan, Italy, Luxembourg, Malta, Serbia, Slovakia, Turkey, Moldova, Montenegro, Russia and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Figure 7.21: Student mobility flows: Top three countries of destination (outward) in %, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Figure 7.22: Outward mobility versus diversity of destination countries (mobility flows within and outside EHEA) 2014/15,

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Figure 7.23: Recognition of credits gained during (most recent) enrolment abroad – Share of students who have been enrolled abroad (in %), 2016/17

Data source: EUROSTUDENT VI, 1.7.

No data: Germany: Partial recognition/no credits gained/no plans for recognition, Switzerland: no plans for recognition.

EUROSTUDENT Question: 4.4. [only students who have been enrolled abroad] Were the credits (ECTS, certificates) you gained for your enrolment abroad recognised by your home institution?

Deviations from EUROSTUDENT survey conventions:

Austria, France, Germany, Ireland and Switzerland: Response option 'did not plan to get credits recognised' not offered.

Germany: Fewer response options offered

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Germany: fewer response options: no distinction between 'full' and 'partial' recognition possible.

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