The state of higher education

One year into the COVID-19 pandemic

June 2021

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BETTER POLICIES FOR BETTER LIVES

Acknowledgements

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Editorial

The Covid-19 pandemic has disrupted education, like most aspects of our lives. It has exposed the inadequacies in our education systems, and created new conditions to which education systems, it quickly became clear, were poorly adapted. Although these inadequacies are magnified in times of crisis, it also promises the real possibility that we do not have to return to the status quo when things return to "normal". It will be the nature of our collective and systemic responses to the disruptions that will determine how we are affected by them. Drawing the right insights from the crisis is therefore key.

In an unprecedented education crisis like this, it is difficult to gain insights from the past. However, it can help to look outwards to how other education systems are responding to similar challenges. To support this, the OECD has collected comparative education statistics to track developments throughout the pandemic through a series of Special Surveys and issued a series of reports.

The global spread of the Covid-19 pandemic severely impacted higher education as universities closed their premises and countries shut their borders in response to lockdown measures. The pandemic has also exposed the need for higher education institutions and policymakers to re-examine their established educational and policy models. New policy measures and institutional choices are needed to make more innovative use of blended provision for traditional student populations, to offer new credentials fitted to mature learners focused on re-skilling and up-skilling; to achieve a balanced and sustainable internationalisation; and to ensure that the funding of higher education systems is robust to disruptions and equitable for learners.

In contrast to the school sector, where attendance is compulsory and provision is typically government-funded, higher education is a choice for students that competes with a range of alternative learning and occupational opportunities, and depends more often of household spending. Public funding for schools is more likely than higher education spending to be safeguarded in the post-COVID-19 period, and declines in public funding to subsidise attendance will be more difficult to offset with increased fees, owing to reductions in household incomes. Higher education systems with relatively generous income-contingent lending systems, where students do not pay upfront, as in the United Kingdom, maybe more resilient to enrolment shocks. Universities substantially funded through household spending and in which fees are charged at the point of enrolment will be especially vulnerable.

Perhaps the most surprising result from this report is how poorly prepared universities in most countries were for a rapid shift to online provision. Although higher education makes a huge contribution to research and advances in digital technology, digital technology often plays a limited role in the educational programmes it provides. Among 7 countries with comparable data, the percentage of students enrolling exclusively in distance learning over the 2018/19 academic year was 1% or less.

In some of these countries, low levels of online learning in higher education prior to the Covid crisis resulted from constraining regulatory frameworks. While higher education institutions were quick to replace face-to-face lectures with online learning, they often struggled with insufficient experience and time for conceiving new formats of instructional delivery and assignments. Examinations were affected as well, causing disruptions in learning and study progression.

In April-May 2020, just after physical campuses were closed, the European Commission surveyed 114 higher education institutions taking part in the first round of the European Universities Initiative, and asked how higher education institutions could have been better prepared to face the pandemic crisis. Among the most common

answers were a larger share of courses provided online as well as a more common use of online courses and Massive open online courses (MOOCS) prior to the crisis, the existence of clear and automatic procedures for credit recognition, and wide use and access to virtual conferences and exchanges.

In April 2020, the European Students' Union surveyed students enrolled in European higher education institutions, the results of which revealed a clear preference for face-to-face teacher-student interaction. The bottom line is that traditional student populations are unlikely to commit large amounts of time and money to study exclusively online. These students go to universities to meet great people, to have inspiring conversations with faculty, to collaborate with researchers in the laboratory, and to experience the social life on campus. To meet the expectations of theses learners, higher education institutions will need to create learning environments in which digitalisation expands and complements, but does not replace, student-teacher and student-student relationships.

Clearly, the COVID-19 crisis spurred an acceleration and deepening of digitalisation in teaching and learning: in course design, instruction, assessment, learning analytics and credentialing, among others. Despite some of the challenges seen in the COVID-19-driven emergency remote instruction, there is likely demand among students and prospective students for more flexible study options – online learning and part-time options in particular. This may include new online/part-time traditional qualifications; blended or online versions of existing programmes; and alternative ways of obtaining credentials.

Higher education institutions are responding to these expectations within a swiftly changing education and training sphere, increasingly populated by IT firms, educational technology providers, and online learning platforms. In this changing learning ecosystem, higher education institutions continue to play a central role of organising and credentialing learning. They also must reckon with these new actors, engaging with them as providers (or consumers) of content for their learning platforms, as users of their virtual learning environments, and – sometimes – as competitors for control over course development, design, and assessment. In addition, digital recognition of learning though the award of microcredentials and recordkeeping through blockchain technologies can provide new opportunities for learners to decide what to learn, when to learn, how to learn and where to learn, and to have their learning gains independently recognised.

As highlighted in this report, there has been an increasing interest in microcredentials since March 2020, which coincides with the COVID-19 lockdowns implemented across the world. Adult learners hoping to re-skill or up-skill may opt to acquire labour market relevant skills in a flexible and affordable manner, turning to rapid and flexible alternatives than academic degrees, including certificates, industry-recognised certifications, and microcredentials. Governments, too, may view shorter learning programmes as a tool to quickly up-skill and re-skill laid-off workers, and better align their skills profiles to labour market demand. For example, the Portuguese government launched the "Skills 4 post-Covid" initiative in May 2020, aiming to equip the unemployed with specialised-skills that are highly demanded in the labour market through the provision of micro-credential programmes.

A further dimension sharply differentiating higher education from the school sector is the international mobility of researchers and especially learners. Although not all countries closed their borders to international students, travel restrictions became a major barrier to student movements, and sometimes there were also concerns about students' safety and legal status in their host country. In the United States there was a decline of 16% in total international enrolments and of 43% of new students between autumn 2019 and autumn 2020. A decrease in the share of international students can lead to a drop in revenues, affecting in particular those institutions with greater dependence on international fees. Australian universities that enrol large numbers of Chinese students expected to lose between 2 billion USD and 3 billion USD in tuition fees from international students. Digital technologies make "virtual internationalisation" possible, though likely a less attractive option for traditional higher education students than in-person learning.

In principle, the use of digital technology in universities holds great promise, including transforming teaching and learning practices; widening access to non-traditional learners; reducing instructional costs; improving opportunities for student and teacher collaboration; and expanding individualised and adaptive instruction. But it will require higher education institutions to commit to the development of a next-generation learning environment, including large-scale investments in hardware and software, sufficient time and training for teaching staff, and adapting pedagogical and assessment approaches to the new digital environment.

The success of digitalisation will depend on identifying the programme types and components of programmes that are most suitable for digitalisation; giving attention to student expectations and needs; considering employment expectations; ensuring that staff have the

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skills and support to deliver quality digital learning opportunities; and having regulatory and quality frameworks that permit flexibility to innovate.

Obviously, the use of digital technology also carries risks – ranging from the confidentiality of learners' personal information through the quality of the digital resources up to the potential loss of important developmental experiences outside of the classroom.

Weighing the benefits and risks, policymakers will need to re-examine and revise the policies for which they bear responsibility, including the funding of institutions and students; the ways in which instructional staff are supported and rewarded; the monitoring and assurance of quality; and the ways in which learning is credentialed and verified. Digitalised learning risks creating new inequalities among learners, while also creating new models of learning and new ways of credentialing learning. This will require student support systems to adjust to reduce risks of new inequalities while permitting innovative models of learning and credentialing to emerge. Last but not least, academic career structures may need to be adjusted to incentivise instructors to make effective use of digitalisation in teaching.

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1

Learning disruption: rapid transition to distance learning

The COVID-19 pandemic had a wide and immediate impact on higher education, forcing institutions to make an urgent transition to emergency distance learning. This required immediate responses by higher education institutions and policy makers to ensure the continuity of learning which led to a dramatic change in the experience of both educators and learners.

Restricting access to higher education institutions: shifting to online learning

By 26 March 2020, all responding jurisdictions with comparable data had fully closed the physical campuses of their higher education institutions to all students because of the COVID-19 pandemic crisis. One exception was Japan, where nationwide closures were not mandatory (Table 1.1) but most institutions postponed the start of the Spring 2020 semester. Because the pandemic context varied regionally, **some countries closed the physical campuses of their institutions at regional or local levels in a second closure period**. For example, in Denmark, regional lockdowns took place in the Nordjylland region because of COVID-19 strains related to mink production. In New Zealand, all educational institutions were closed in the Auckland region during the second half of August due to a local outbreak. Similarly, Norway and Finland implemented a varying number of closure periods according to local outbreaks.

As of 1 February 2021, in **slightly over half of the jurisdictions responding to the survey, physical campuses of higher education institutions were closed due to COVID-19**, a proportion higher than in upper-secondary education (general and vocational) (Figure 1.1). In other **jurisdictions**, physical campuses of higher education institutions remained partially opened (open in certain regions, open for certain grades or with hybrid learning – in all or certain regions, in all or certain grades). In Austria and Sweden, while most instruction was being organised online, exceptions were granted in specific circumstances for person-to-person meetings, teaching and examinations on campus. In the Netherlands, while campuses were closed, some exceptions for on-campus activities were authorised such as examinations, guidance for vulnerable students and practical activities. The same applied to Latvia for practical activities required for final-year students to complete professional studies. In Belgium, hybrid provision was authorised for first year students and some practical courses/internships. In Ireland and Turkey, decisions on delivery mode and the level of on-site attendance needed were the responsibility of individual institutions.

The number of instruction days where physical campuses of higher education institutions were closed for in-person instruction (excluding school holidays, public holidays and weekends) during 2020 strongly varied across **jurisdictions** and tended to be above that for lower levels of education. **On average, across the 24 jurisdictions with comparable data, physical campuses of higher education institutions were closed for 78 days in 2020** against averages of 66 days and 63 days for general upper-secondary schools (across 32 **jurisdictions**) and vocational upper-secondary schools (across 30 **jurisdictions**), respectively (Figure 1.2). In Austria, Chile, France, Israel, Poland and Switzerland, campuses of higher

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education institutions were closed at least 34 days more than in general upper-secondary schools. By contrast, Belgium, Colombia, Italy, Norway, Slovak Republic and Sweden closed campuses of their general upper-secondary schools for longer than their campuses of higher education institutions.

Table 1.1[1/2] • Nationwide full closures of physical campuses of higher education institutions during 2020

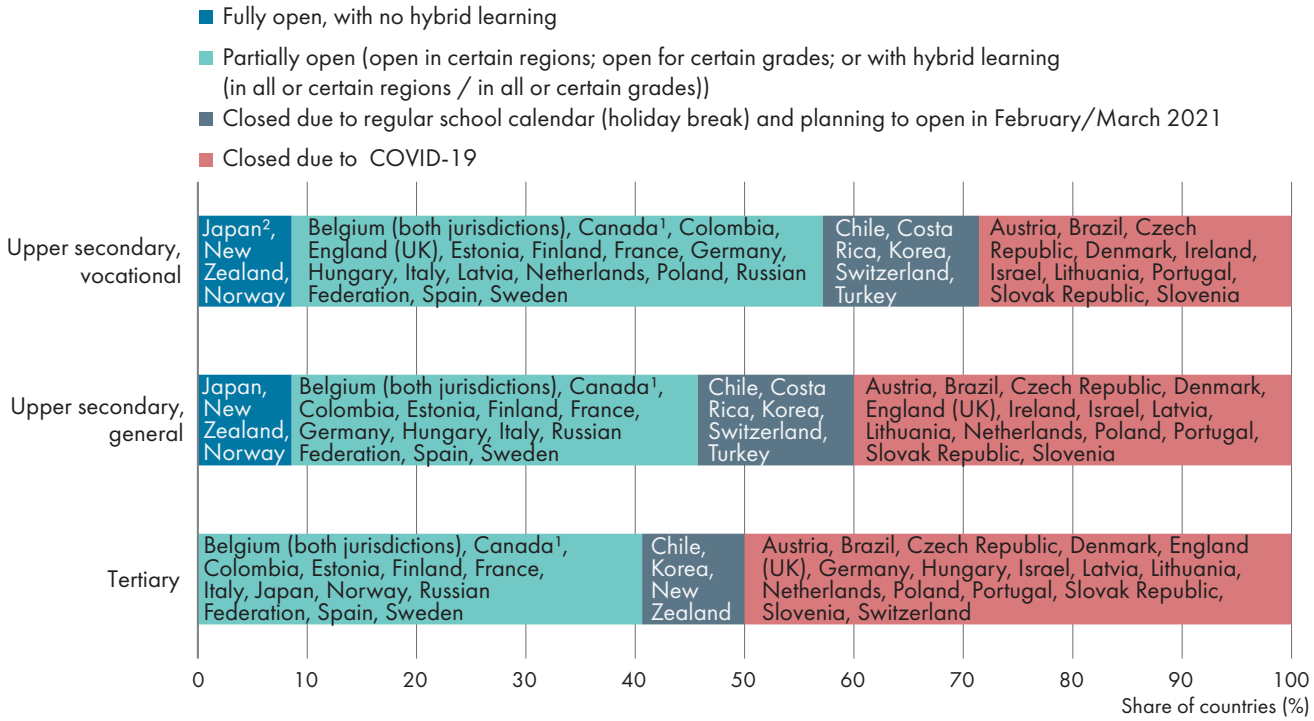
	First time period where physical campuses of higher education institutions were fully closed		Second time period where physical campuses of higher education institutions were fully closed	
	Starting date	Ending date	Starting date	Ending date
Austria	16 March 2020	31 December 2020		
Belgium (Flemish Community)[1]	16 March 2020	18 May 2020		
Belgium (French Community)[1]	16 March 2020	18 May 2020		
Canada[2]	23 March 2020	31 December 2020		
Chile	15 March 2020	01 October 2020		
Colombia	16 March 2020	31 August 2020		
Czech Republic	11 March 2020	07 May 2020	12 October 2020	04 December 2020
Denmark	11 March 2020	18 May 2020	09 December 2020	31 December 2020
England (United Kingdom)	23 March 2020	26 June 2020		
Estonia	12 March 2020	17 May 2020	14 December 2020	31 December 2020
Finland	18 March 2020	30 May 2020		
France	16 March 2020	30 June 2020	30 October 2020	31 December 2020
Germany	1 April 2020	31 December 2020		
Hungary	12 March 2020	18 June 2020	11 November 2020	31 December 2020
Ireland	13 March 2020	31 December 2020		
Israel	18 March 2020	31 December 2020		
Italy	10 March 2020	30 April 2020		
Japan[3]				
Latvia	13 March 2020	29 May 2020	26 October 2020	21 December 2020
Lithuania	16 March 2020	01 June 2020	09 December 2020	31 December 2020
Netherlands	12 March 2020	01 August 2020	16 December 2020	31 December 2020
New Zealand	26 March 2020	17 May 2020		
Norway[4]	12 March 2020	27 April 2020		
Poland	12 March 2020	30 September 2020	24 October 2020	31 December 2020
Slovak Republic	16 March 2020	30 June 2020	28 October 2020	31 December 2020
Slovenia	16 March 2020	18 May 2020	19 October 2020	31 December 2020

Table 1.1[2/2] • Nationwide full closures of physical campuses of higher education institutions during 2020

	First time period where physical campuses of higher education institutions were fully closed		Second time period where physical campuses of higher education institutions were fully closed	
	Starting date	Ending date	Starting date	Ending date
Spain	14 March 2020	22 May 2020		
Sweden[5]	18 March 2020	15 June 2020		
Switzerland	11 March 2020	08 June 2020	11 November 2020	31 December 2020

Notes: Total responding jurisdictions: 29.
Please note that this table only covers the year 2020. In some countries, closures continued in 2021. In the Slovak Republic, for example, physical campuses of higher education institutions remained fully closed until at least 26 April 2021, depending on the regional pandemic situation.
1. In Belgium, as of 18 May 2020 and in November and December 2020, higher education institutions were allowed to organise classes (with priority given to first year students, practical courses and laboratories) with a maximum capacity of 10%. The opening of institutions was theoretically possible but most students engaged in online classes. Institutions were also allowed to organise examinations on campus, following specific protocols. Additionally, students with an internship could resume their internships as of 3 April 2020 in the health care sector and as of 18 May 2020 in other sectors.
2. In Canada, closure dates varied across provinces and territories, with most campuses remaining closed as of March 23, 2020.
3. In Japan, nationwide closures were not mandatory for higher education institutions.
4. In Norway, rare exceptions to the closure of campuses were granted to allow essential staff to keep animals alive and to maintain experiments based on biological cultures and materials.
5. In Sweden, the dates indicated refer to the dates communicated as a part of the national recommendation.
No information was provided for Brazil, Costa Rica, Korea, Portugal, the Russian Federation and Turkey.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Figure 1.1 • Closures of physical campuses of higher education institutions as of 1 February 2021



Notes: Total responding jurisdictions: 35 (32 for higher education).
Closure refers to physical campuses, hence "Closed due to COVID-19" refers to closed campuses with the continuation of instruction at a distance.
1. In Canada, closing dates and reopening dates varied across provinces and territories.
2. Excluding College of technology (upper secondary vocational education).
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

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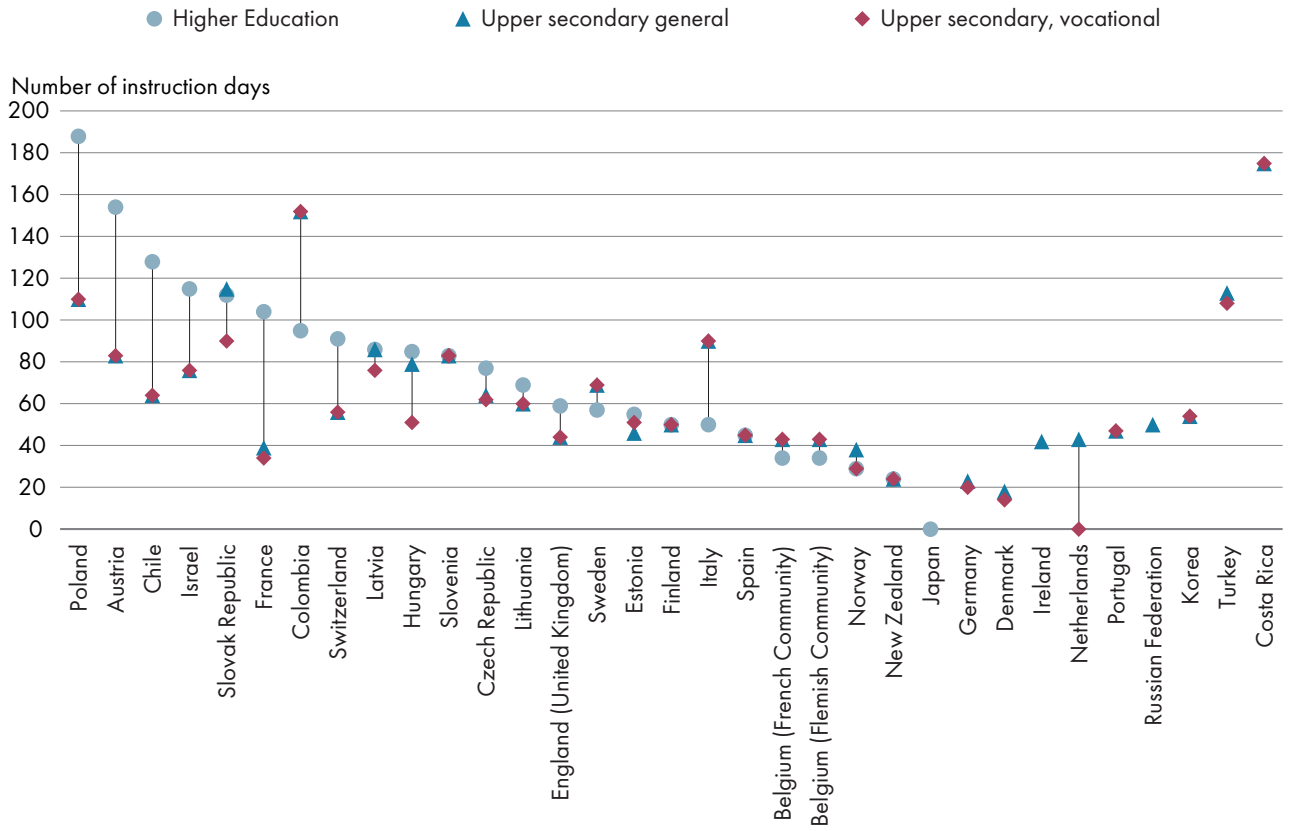
Figure 1.2 • Number of instruction days (excluding school holidays, public holidays and weekends) where physical campuses of higher education institutions and upper-secondary schools were fully closed in 2020



Notes: Total responding jurisdictions: 33 (24 for higher education).
For the following **jurisdictions**, where there are variations between sub-national regions, the following indicators were used: (i) most typical number of instruction days where institutions/schools were fully closed [Colombia, Germany, Italy, New Zealand, Slovak Republic and Turkey]; (ii) average between the minimum and the maximum number of instruction days where institutions/schools were fully closed [Poland]; and (iii) minimum number of instruction days where institutions/schools were fully closed [Ireland]. In Colombia, the non-higher education calendar has been used as a reference to establish the estimated reported days. For Italy, the data concerning higher education relate to the single period institutions were closed by law.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Readiness of higher education for online learning

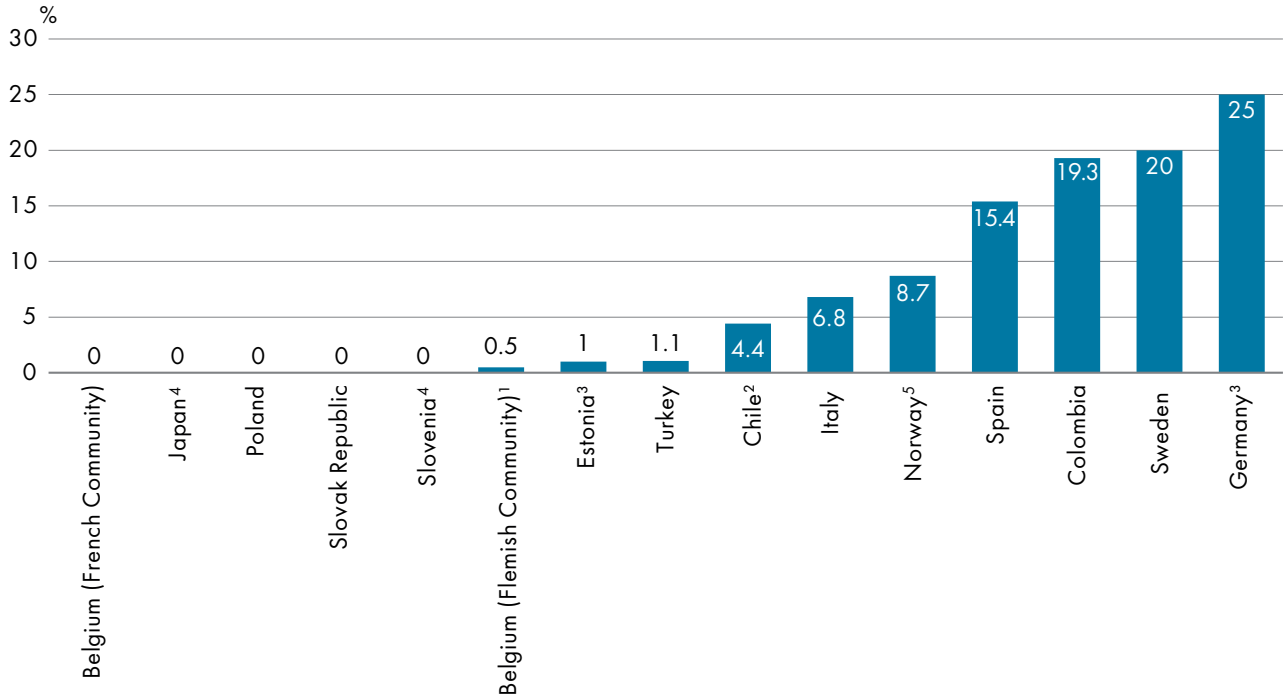
During closures of the physical campuses of higher education institutions, online learning became the lifeline for both students and academic staff who had to quickly adapt to the new circumstances. While the adoption of digital technologies in higher education commenced decades ago, it has varied widely among and within higher education systems. While no good comparable measures of digital readiness in higher education are available, **there is some evidence showing sharply dissimilar rates of online learning across OECD higher education systems.**

Limited use of distance learning in higher education prior to the COVID-19 crisis within a constraining regulatory framework

Little comparative data is available concerning online provision in higher education. Data collected by the OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID indicate that there is likely to be great variability in online provision across jurisdictions. While in some countries such as Colombia, Germany, Spain and Sweden the percentage of students enrolled exclusively in distance learning in higher education was above 15% prior to the pandemic (academic year 2018/19), in other countries such as Belgium, Japan (only full-time students), Poland, Slovak Republic, Slovenia (only full-time students) and Turkey such proportion was

close to zero (Figure 1.3). **However, there is evidence that, in some countries such as the United States, there is a trend favouring online learning in higher education.** For instance, between 2012 and 2018, distance education course enrolment increased by 29% in the United States, while the number of students enrolled in a mix of distance education and face-to-face education increased by 33%. In the Fall 2018, 16.8% of higher education students were enrolled exclusively online (National Center for Education Statistics, 2021[1]). California community colleges report an increase from 1% to 20.4% of the students completing at least one course online between 1992 and 2019 (Johnson, Cuellar Mejia and Cook, 2020[2]). Similarly, in Oregon public universities the number of students taking at least one online course increased about 30% between 2009 and 2019, while the number of students taking only online courses also increased to reach more than 10% of all students in 2019 (Wallis, 2020[3])

Figure 1.3 • Percentage of students who enrolled exclusively in distance learning in higher education over the 2018/19 academic year



Note: Total responding jurisdictions: 14.
1. In Belgium (Flemish Community), the 1% represent only students enrolled at the Open University.
2. In Chile, 3.81% of students enrolled in undergraduate programmes and more than 14% of students enrolled in graduate programmes are exclusively enrolled in online education.
3. In Estonia and Germany, less than 1% and less than 25% of students enrolled exclusively in distance learning over the 2018/19 academic year, respectively.
4. Data for Japan and Slovenia refer only to full-time students.
5. In Norway, 8.7% includes distance education programmes, but also programmes with some session-based teaching.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

In some countries, low levels of fully online learning in higher education prior to the COVID crisis resulted from a constraining regulatory framework. For instance, in Poland, regulations do not allow higher education studies conducted entirely remotely. In Turkey, only up to 30% of courses in higher education programmes can be delivered by distance education. According to the Higher Education Policy Survey on Resourcing conducted in 2020 by OECD's Higher Education Policy Programme, a number of countries such as Hungary, Italy, Japan, Lithuania, New Zealand, Poland and Turkey **applied restrictions to the extent of online learning permitted** in public and government-dependent private institutions. These

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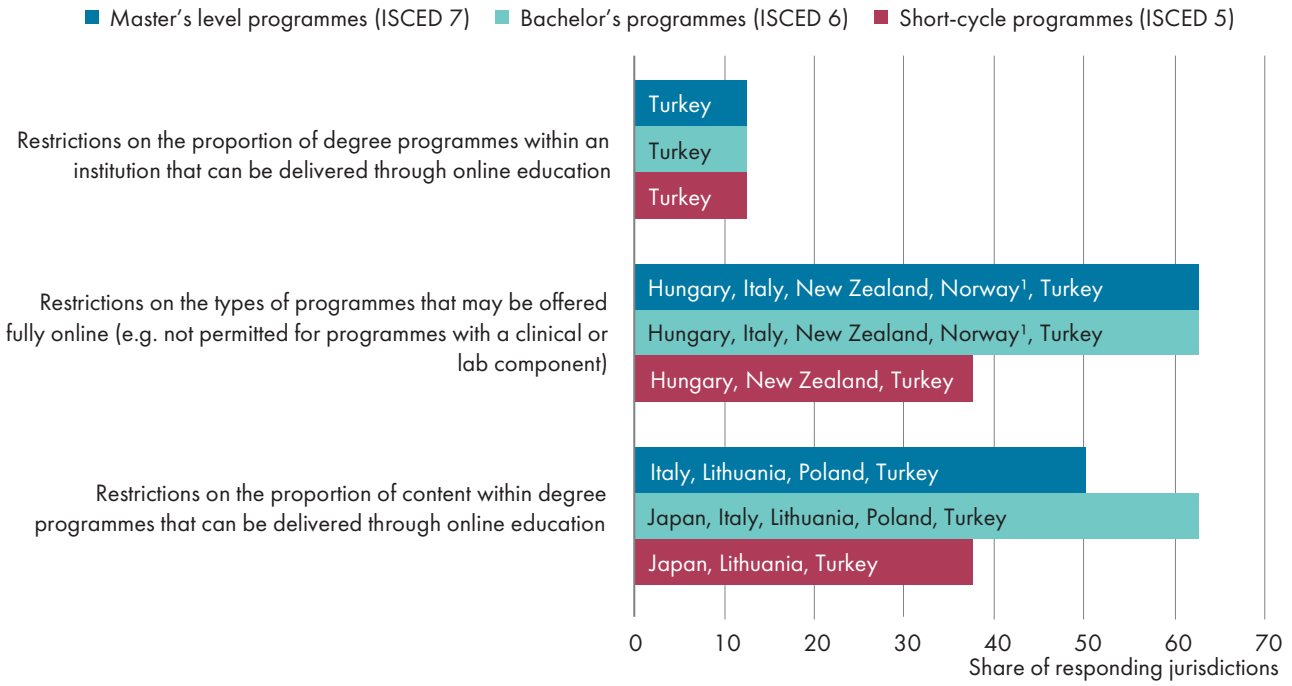
restrictions vary according to the programme level but apply mainly to the types of programmes that may be offered fully online, and to the proportion of content within degree programmes that can be delivered through online education (Figure 1.4).

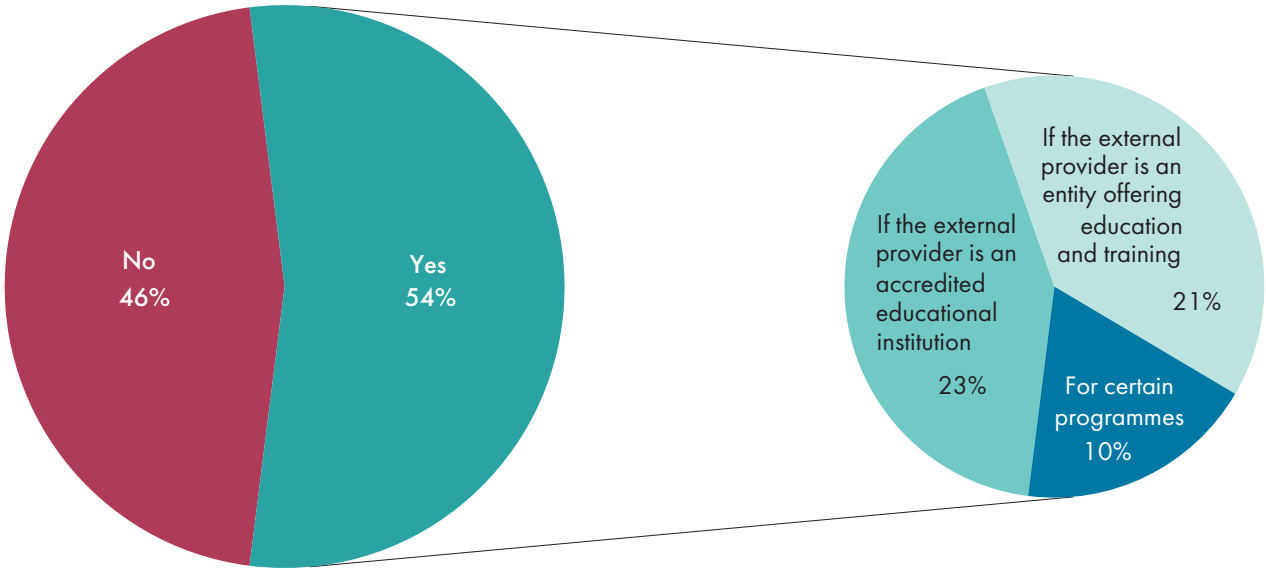
In many countries, however, policy frameworks include provisions to facilitate the delivery of online learning in higher education institutions. According to OECD's Higher Education Policy Survey on Resourcing, 25 of the 26 responding jurisdictions allow specialist non-academic staff within higher education institutions to design online courses, develop and administer online assessments, or advise students enrolled in online courses. Also, 14 of the 26 responding jurisdictions allow higher education institutions to outsource to an external provider individual online courses that are part of a degree programme when specific conditions are met (Figure 1.5)

Figure 1.4 • Applicable restrictions to the extent of online learning in higher education by programme level



Note: Expressed in share of OECD education jurisdictions considering each option. Total responding jurisdictions: 8.
1. In Norway, programmes which include compulsory practice in specific sites such as hospitals, kindergartens and schools, require such practice to be performed in-person even when the rest of the programme is provided online.
The aim of the Higher Education Policy Survey 2020 is to collect detailed and comparable information about the design of financial and human resource policies in OECD higher education systems to help OECD governments to more robustly compare the policies they have put in place with those of peers within the OECD. It focuses on four main policy domains in higher education: student funding, institutional funding, human resources and resource governance and co-ordination. By January 2021, 29 education jurisdictions had responded (at least partially) to the survey: Austria, Belgium (Flemish Community), Belgium (French Community), Canada, Chile, Czech Republic, Denmark, England (United Kingdom), Estonia, Finland, France, Hungary, Italy, Ireland, Israel, Japan, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Sweden, Switzerland and Turkey.
Source: Higher Education Policy Survey 2020 on Resourcing, OECD.

Figure 1.5 • Outsourcing online courses in higher education institutions



Note: Total responding jurisdictions: 26.
Source: Higher Education Policy Survey 2020 on Resourcing, OECD.

Limited digital readiness within higher education institutions prior to the COVID-19 pandemic crisis

Perceptions among academics of preparedness of their institutions for remote work differ considerably across countries. An extensive survey of active researchers about the academic response to COVID-19 conducted in May and June 2020 by Frontiers (an Open Access research publisher and Open Science platform), with more than 25 000 respondents covering over 150 countries, asked researchers' about their belief on whether or not their institution or organisation was adequately prepared to work remotely (Rijs and Fenter, 2020[4]). As expected, the perception of preparedness for remote work varied considerably, with 75% of respondents in New Zealand, 74% in Sweden, 71% in China, 66% in the United States, and 62% in the United Kingdom estimating they were well prepared, while such perception only reached 36% in Brazil, 50% in Spain and 58% in Germany.

Similarly, there are indications that the use of online tools by academics remained limited prior to the COVID-19 pandemic. The OECD International Survey of Scientific Authors (Bello and Galindo-Rueda, 2020[5]) asked in 2018 the following question: "Over the last 12 months did you make use of any online platforms or related apps, tools or solutions for any of the following as part of your scientific or research work?". As shown in Figure 1.6, in 2018 researchers were making a limited use of digital tools and resources that could be useful for online instruction, e.g. fewer than 50% used virtual online meetings, fewer than 35% used online solutions to connect with stakeholders.

A study funded by the Lumina Foundation assessed the readiness of higher education institutions to move online (Salmi, 2020[6]). Even higher education institutions in high-income countries were not fully prepared for a sudden shift to remote education, including in terms of videoconferencing and digital content resources (Table 1.2).

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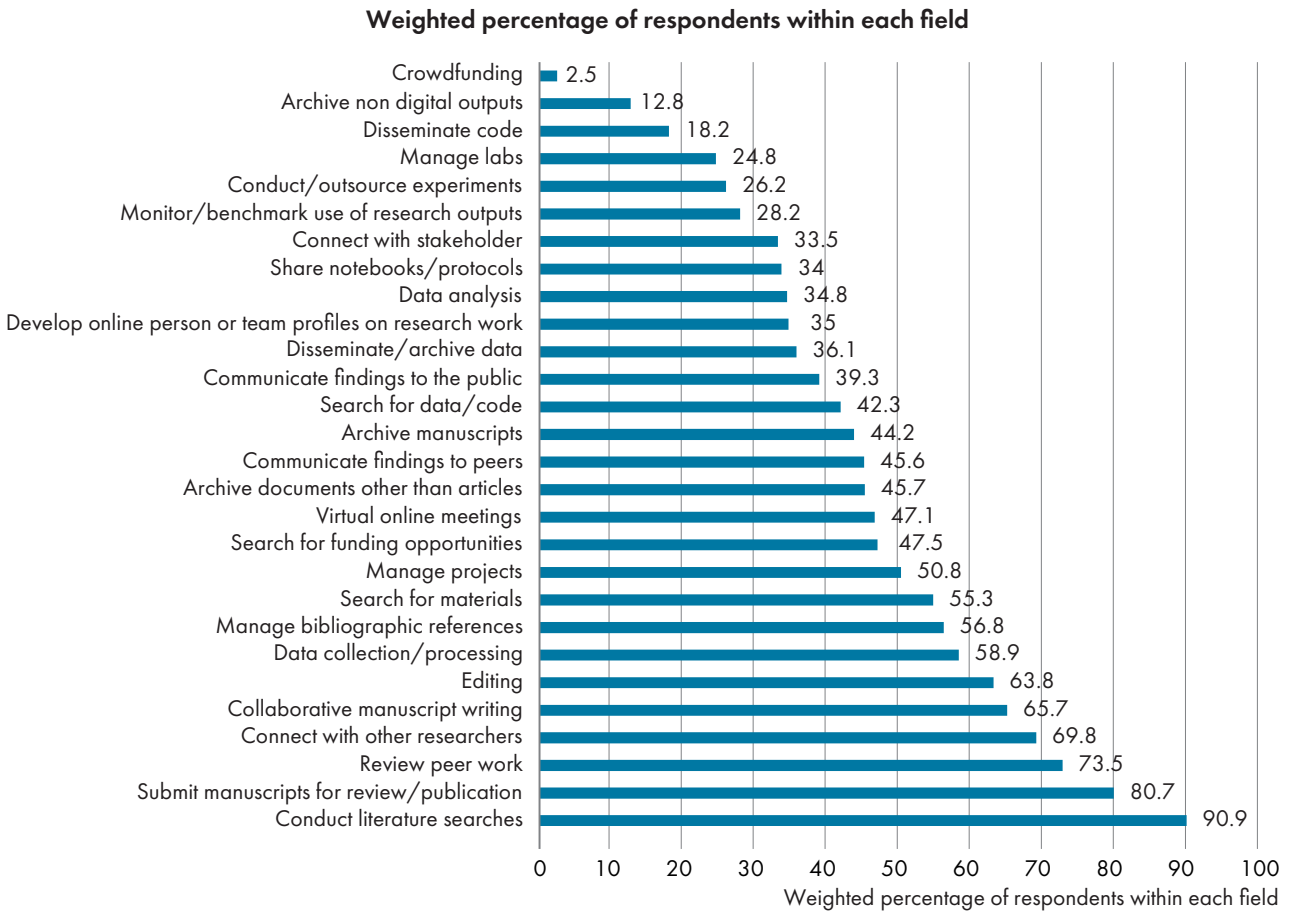
Figure 1.6 • Percentage of researchers using online tools or solutions for the following scientific/research tasks in the preceding 12 months, 2018



Note: The figure shows the weighted percentage of researchers responding affirmatively for each type of digital tool to the question "Over the last twelve months, did you make use of any online platforms or related apps, tools or solutions for any of the following as part of your scientific/research work?"
Source: OECD International Survey of Scientific Authors (Bello and Galindo-Rueda, 2020[5])

Table 1.2 • Readiness of higher education institutions to move online

Factors of readiness	High-income countries	Middle-income countries	Low-income countries
Business continuity plan	☐ ☐	☐	☐
Emergency management office	☐ ☐	☐	☐
Power supply	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐
Broadband Internet	☐ ☐ ☐ ☐	☐ ☐ ☐	☐ ☐
Learning management system	☐ ☐ ☐ ☐	☐ ☐ ☐	☐ ☐
Videoconferencing	☐ ☐	☐ ☐	☐
Digital content resources	☐ ☐	☐	☐
Teaching and learning unit	☐ ☐	☐ ☐	☐
Trained instructors	☐ ☐	☐ ☐	☐
Cybersecurity	☐ ☐	☐ ☐	☐

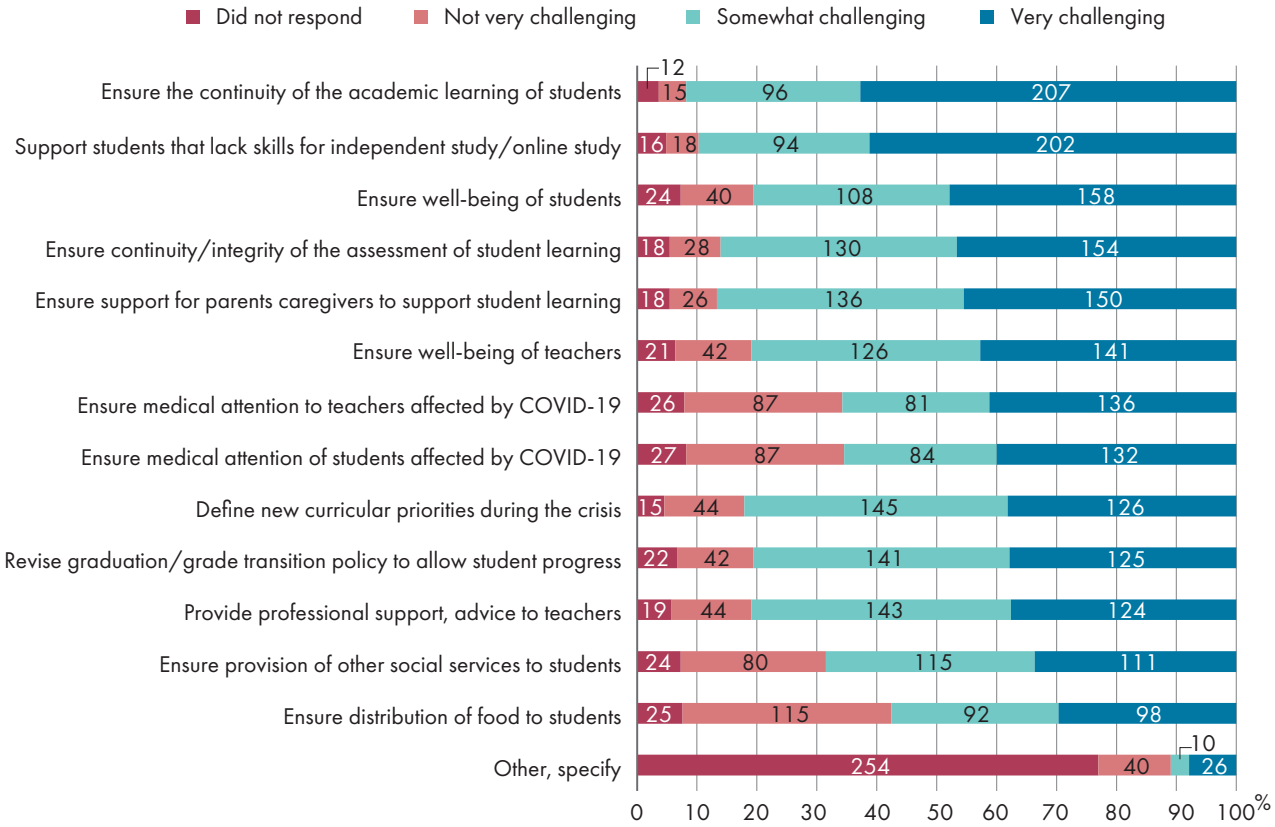
Notes: ☐ means rarely available, ☐ ☐ means not always available, ☐ ☐ ☐ means generally available, and ☐ ☐ ☐ ☐ means fully available.
Tries to capture differences across groups of countries (from low to high-income) in terms of institutional readiness to adapt to the pandemic and to move online.
Source: Salmi, 2020[6], COVID's Lessons for Global Higher Education, Lumina Foundation, https://eric.ed.gov/?id=ED611329.

Immediate challenges as higher education institutions rapidly moved to online learning

A survey conducted by the OECD and Harvard Graduate School of Education in March 2020 addressed immediate challenges as higher education institutions moved to online learning during the first wave of institutional closures (OECD, 2020[7]). **Respondents identified as the most challenging priority for institutions ensuring the continuity of the academic learning** (Figure 1.7). This survey also highlighted other important challenges such as supporting students who lack skills for independent online study and ensuring the well-being of students.

In April-May 2020, just after physical campuses were closed, the European Commission surveyed (European Commission, 2020[8]) 114 higher education institutions taking part in the first 17 European Universities Initiative, and asked **how higher education institutions could have been better prepared to face the pandemic crisis.** Among the most common answers were a larger share of courses provided online as well as a more common use of online courses and MOOCS (Massive Open Online Courses, free online courses) prior to the crisis, the existence of clear and automatic procedures for credit recognition, and wide use and access to virtual conferences and exchanges.

Figure 1.7 • Immediate challenges faced with the rapid move to online learning in higher education, March 2020



Note: The figure displays the number of responses per category to the question "How challenging would it be to address the following priorities?" This rapid survey conducted by the OECD and the Harvard Graduate School of Education was administered online between 18 March and 27 March 2020 to various networks, including the country delegations to the OECD and the institutional partners of the Global Education Innovation Initiative at Harvard University. It was also distributed through other education organisations such as Save the Children and WISE. A total of 330 responses were received from 98 countries, including responses from educators/teachers/academics, school coaches and advisors, school principals, school superintendents, professors, and technical and managerial staff in civil society organisations in education.
Source: OECD, 2020[7], A framework to guide an education response to the COVID-19 pandemic of 2020, https://doi.org/10.1787/6ae21003-en.

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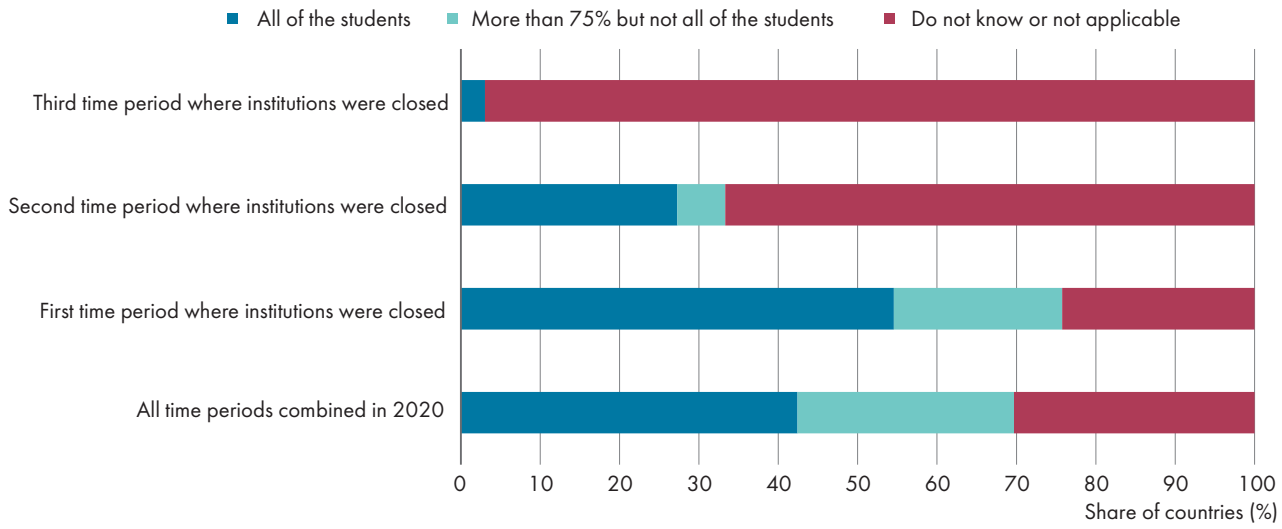
Higher education institution closures: online learning as a norm

Access to and delivery of online learning during the COVID-19 pandemic crisis

Rapid shift to online learning in higher education

As higher education institutions closed their physical campuses, their emergency response centred on the use of digital technologies for teaching and learning. Students and teachers alike moved almost instantly to distance learning. **Most students in higher education continued their studies by means of distance education during closures of institutional campuses in 2020** (Figure 2.1). During the first period of institutional closures, in 55% of the **jurisdictions** all students participated in distance education in higher education. In a further 20% of the **jurisdictions**, more than 75% of students participated in distance learning in higher education. In all closure periods combined, in more than 40% of the **jurisdictions** all higher education students continued their studies through distance education.

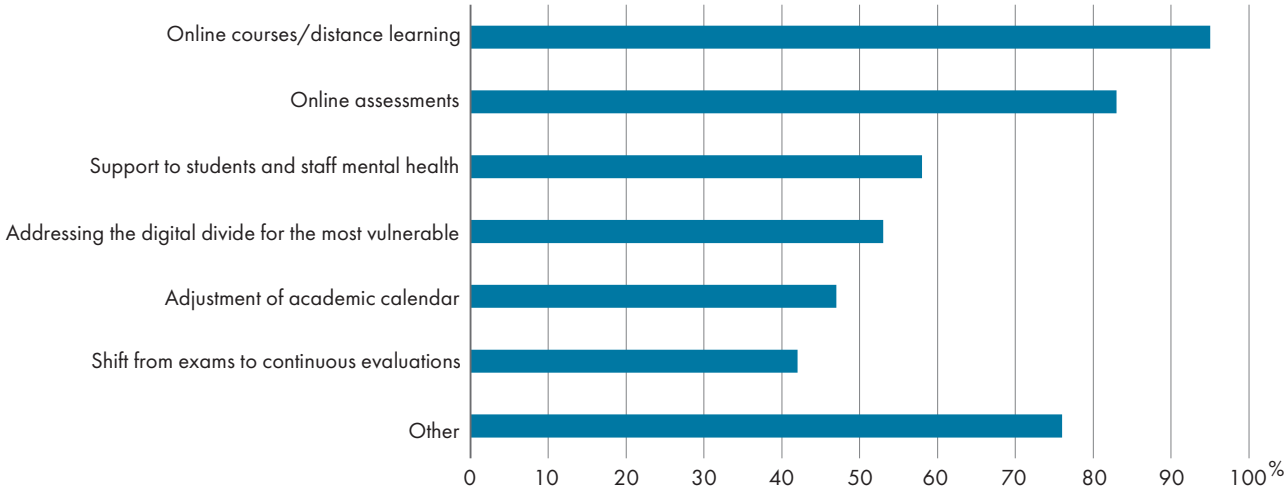
Figure 2.1 • Proportion of higher education students continuing enrolment through distance education during closures of physical higher education campuses in 2020



Note: Total responding jurisdictions: 33.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Individual higher education institutions were forced to make a rapid transition to emergency online learning during the opening months of the pandemic crisis. As Figure 2.2 indicates, during this period students at higher education institutions participating in the European Universities Initiative continued their studies largely through online courses and assessment, while other changes to the learning environment, such as revision to the academic calendar, were less widely felt. These results are characteristic of changes made across the world and changes made in many systems during 2020.

Figure 2.2 • Extent of the implementation of given actions by European higher education institutions to respond to the pandemic crisis, April-May 2020



Notes: Survey administrated to the 114 higher education institutions taking part in the first 17 European Universities Initiative. The survey was conducted between April and May 2020. Scale 0 to 100% of students impacted.
Source: European Commission, 2020[8], European Universities Initiative, Survey on the impact of COVID-19 on European Universities, Main conclusions, https://www.ua.gov.tr/media/5lfnrbx2/european-universities-initiative-results-of-covid-19-impact-survey.pdf.

Teachers' and students' demands for learning management systems experienced a dramatic change during this period. One major education techology firm, Blackboard, reported that the use of virtual classrooms (Blackboard Collaborate) increased by 3600% in March 2020, and by 9000% by the end of September 2020. Much of this was driven by higher education institutions moving their courses online, but there was also an unprecedented growth in the use of learning management systems and students' use of alternative content formats. The pandemic also sparked a huge spike in interest of provision offered by massive online open courses (MOOCs). Coursera, for example, experienced an increase of more than 18 million registered users between March and August 2020.

The emergency shift to virtual teaching and learning was adopted with patience and flexibility on the part of students and teachers, though there is evidence that neither found the experience to be fully satisfactory. For instance, in Hungary, according to a web-based nonprobability survey conducted between 15 February and 15 March 2021 as part of the project "*Supporting the Digital Transformation of Hungarian Higher Education*" and administrated to 3 326 higher education actors (including students, teachers, and leaders), while students reported satisfaction over the flexibility offered by online learning and the associated development of their organisational skills, over half of the teachers reported that online teaching generated more stress and/or less satisfaction than in person teaching. More generally, across countries, teachers were often dissatisfied with lack of management consultation during the shift to emergency remote learning. In most instances, they also found it necessary to take on an increased workload, both to revise courses for online provision, and to respond to greater demands for student support. Online instruction has also generated new or heightened challenges, including newly-recognised learner mental health needs, and challenges to academic freedom when instruction is provided to learners in jurisdictions where there are restrictions on the exchange of ideas.

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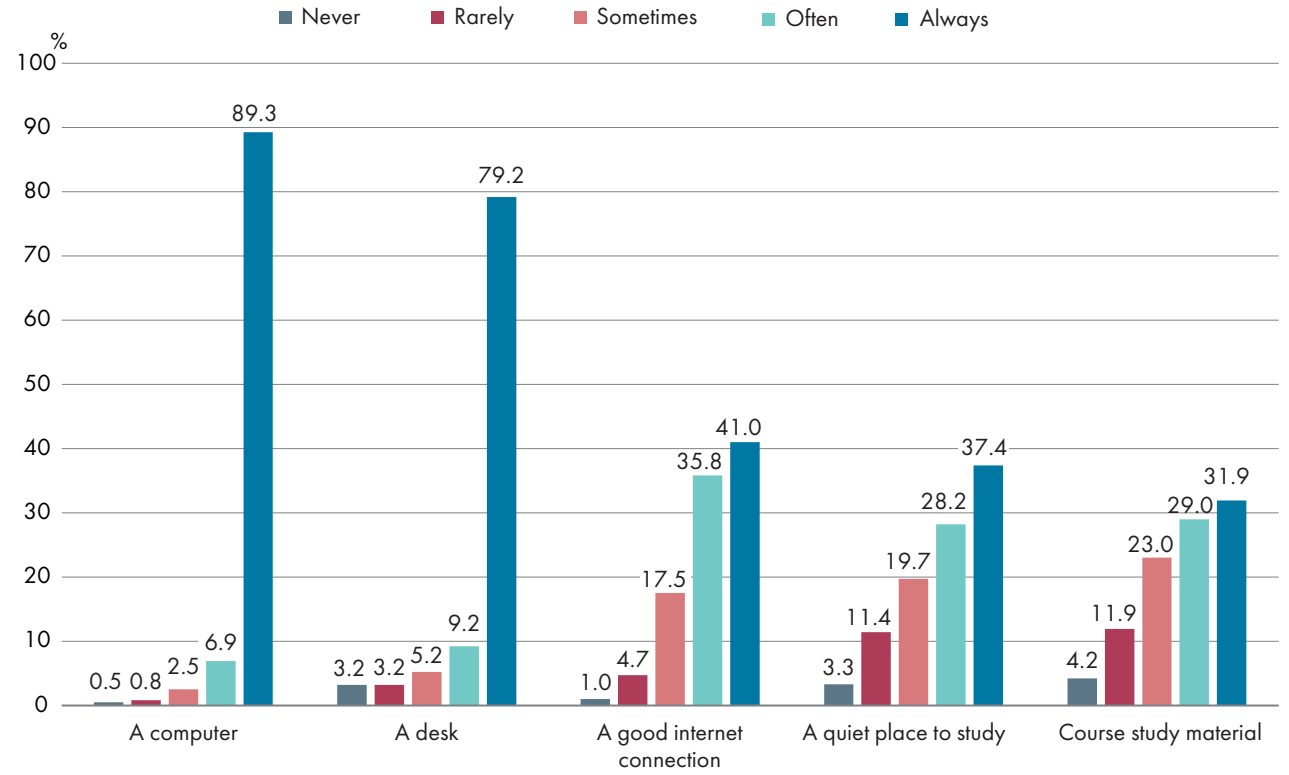
The transition to online learning was most disruptive to disciplines or courses that required site-based learning resources, such as laboratories or fine arts studios, and clinical or work-based learning components. For instance, in response to the COVID-19 crisis, many medical education faculties shifted to online formats with clinical practical sessions online (or, alternatively, deferred them). If this rapid transition had a negative impact on students' and instructors' lives (increasing feeling of isolation and difficulties in balancing work and home responsibilities), it also impacted students' professional identity as it became more difficult to gain competencies such as prioritising patients and being altruistic caregivers. Indeed, with the COVID-19 pandemic crisis, students had limited access to the clinical environment and were rarely involved in the care of patients with suspected or confirmed COVID-19 (Rose, 2020[9]). In addition, for apprenticeship higher education students, while some sectors and enterprises were spared, many sectors stopped offering apprenticeships as the pandemic resulted in uncertainty or loss of staff. Similarly, apprenticeship students reacted themselves to the crisis, with some withdrawing from their programme, and others taking a break or postponing their start date (Mapletoft and Price, 2020[10]).

In April 2020, the European Students' Union surveyed students enrolled in European higher education institutions, **the results of which revealed a clear preference for face-to-face teacher-student interaction** (Doolan et al., 2021[11]). The emergency remote instruction provided what many students viewed as an incomplete and insufficient learning experience. Lectures and practical classes were not always replaced by an online equivalent. Learning support was mostly provided by a close family member, a friend, and/or a classmate, rather than teaching staff. Online study also created new challenges. For most respondents, their workload significantly increased during online learning. Some reported difficulty obtaining sufficient Internet access, a suitable study space and adequate course materials (Figure 2.3).

Figure 2.3 • Difficulties with learning environment during pandemic crisis among European students



Note: Online questionnaire administrated by the European Students' Union to undergraduate and Master's, full-time and part-time students enrolled in European higher education institutions during April 2020. In total, 17 116 respondents from 41 European countries accessed the questionnaire.

Source: Doolan et al., 2021[11], Student life during the Covid19 pandemic lockdown Europe-wide insights, ESU - European Students' Union, https://www.esu-online.org/?publication=student-life-during-the-covid-19-pandemic-lockdown-europe-wide-insights.

Students in higher education also reported lower well-being during the pandemic crisis. In general, higher education institutions contribute to learners' socialisation and emotional well-being, self-esteem, sense of community and sense of belonging. Institutional closures, combined with public health measures limiting social interaction, deprived learners from such a support, particularly critical for students in need of accessing adequate workspaces and learning resources. With the disruption of in-person instruction, students have frequently felt anxious, frustrated and bored in relation to their academic activities. A study conducted in Scotland (United Kingdom) reports a range of negative consequences of shifting to online education as perceived by students: A 'loss of focus' (a loss of control and sense of drift), 'missing the social aspects of class' (lack of peer contact and sense of isolation') and 'Zoom is mentally draining' (the concentration required in online learning and the lack of social clues, such as body language) (Scott, 2020[12]).

In addition, female students and those who face financial difficulties, health conditions or problems using digital resources report lower levels of well-being. These feelings of frustration and anxiety are accentuated by the lack of support reported by the students from higher education institutions. Indeed, when it comes to academic life, only 5.8% of students would turn to administrative staff at their institution to address challenges they are facing in their studies. Students would rather turn first to their colleagues, followed by a close friend, or a close family member (Doolan et al., 2021[11]). An interesting example of initiative to overcome student isolation is the "Peer Assisted Learning Support" scheme to connect new students to classmates and more advanced students, put in place by Glasgow Caledonian University in Scotland (United Kingdom) (Scott, 2020[12]).

Alongside general feelings of anxiety and depression, the malaise of students increased as their financial situation deteriorated. In Europe, while 28.9% of students who worked during their studies lost their jobs temporarily, 12.2% of them lost them permanently (Skledar Matijević, Šćukanec Schmidt and Farnell, 2021[13]). Similarly, in the United States, a survey administrated to 1 500 students in Arizona State University revealed that, because of the pandemic crisis, 40% of them lost either a job, an internship or a job offer (Aucejo et al., 2020[14]). These job losses and the associated economic insecurity have impacted students mentally. According to a survey administrated to 1 000 higher education students across the United Kingdom in January 2021, the mental health of students who worry about their financial situation was negatively impacted for 67% of the students surveyed. In addition, financial difficulties reduced students' ability to focus and study for 35% of the students surveyed, and led 48% of them to consider dropping out of higher education or deferring studies for a year (Blackbullion, 2021[15]). Other survey data indicated that low-income students had a family member lose income or to lose income themselves during the crisis (Aucejo et al., 2020[14]). As a consequence, while 13% of surveyed students planned to delay their graduation due to the COVID-19 pandemic, lower-income students were 55% more likely to delay graduation. They also expected 30% larger negative effects on their academic results for the semester due to COVID-19 (Aucejo et al., 2020[14]).

In addition, female students (and academics) reported having **disproportionate family responsibilities during the pandemic crisis,** putting extra pressure on their lives and studies (Bugan, 2020[16]).

Among instructors, the findings are similar. According to a survey conducted at two-year and four-year institutions in the United States and administrated to 1 122 faculty members, respondents report high levels of stress, hopelessness, anger and grief, and about 35% have seriously considered changing careers and leaving higher education during 2020. In addition, female instructors felt more overworked and overwhelmed than their male counterparts, their work-life balance having deteriorated for 74% of them compared to 63% of the male instructors (The Chronicle of Higher Education, 2020[17]).

The alternative digital learning modalities exposed the disparities in access to digital resources, connectivity and digital skills

The digital learning modalities used during the pandemic crisis exposed the disparities in access to digital resources, connectivity and digital skills that exist between different socio-economic groups, possibly creating significant learning gaps. Disadvantaged learners, such as those from low-income families, minority groups, those with disabilities, or migrants sometimes experienced the digital environment as an additional barrier to learning. For example, in Canada, 4% of low-income households do not have Internet access compared to 1% among the wealthiest Canadians (Frenette, 2020[18]) and approximately 10% of households lack reliable broadband Internet, mostly those in rural and remote areas of the country (RBC, 2020[19]). Because of this geographic gap in coverage, Indigenous students are less likely to have access to Internet speeds conducive for online learning.

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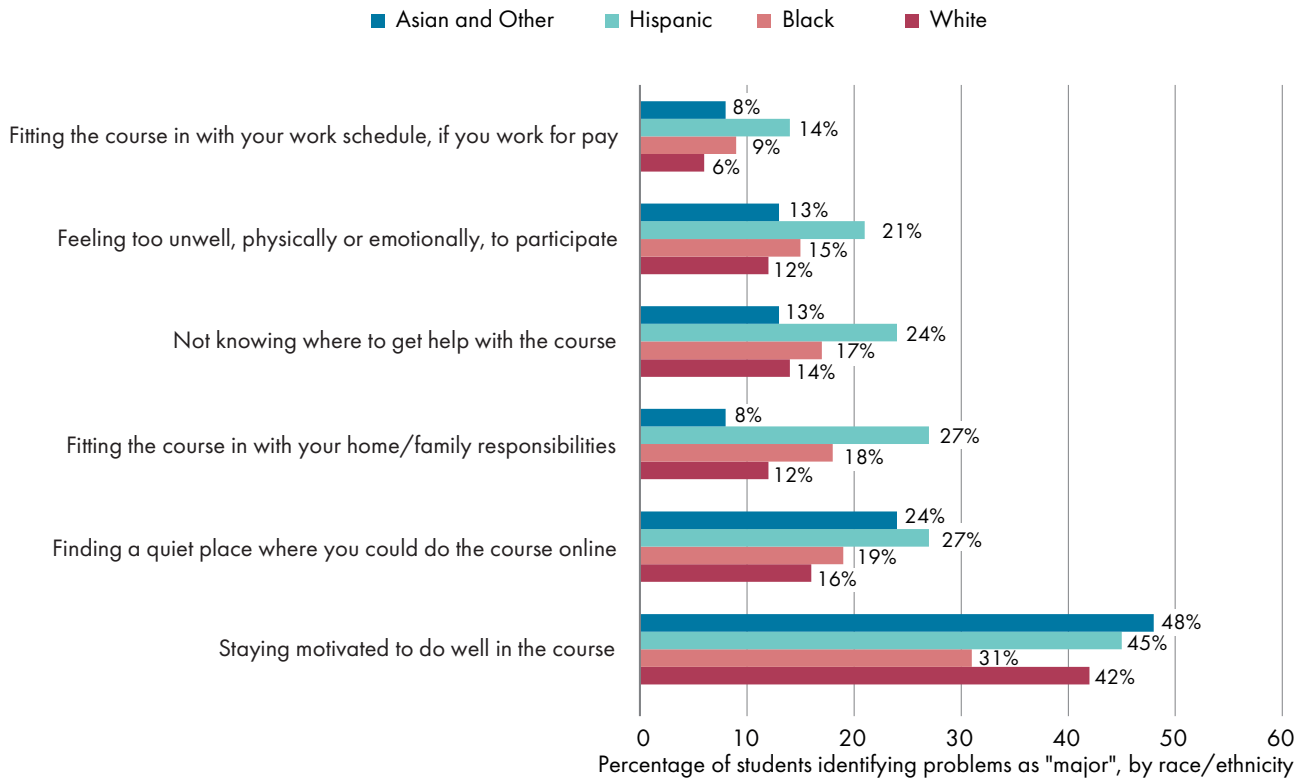
A survey conducted in the United States between May and June 2020, **identified significant differences in the difficulties faced by students as they transitioned to online learning according to students' race or ethnicity** (Digital Promise, 2020[20]) (Figure 2.4). While staying motivated to do well in the course was identified as a major challenge for a large proportion of students regardless of race/ethnicity, fitting the course within home/family responsibilities or not knowing where to get help for the course was more often identified as a challenge among Black and Hispanic students.

A large-scale study with 30 383 students from 62 countries on how higher education students perceived the impacts of the first wave of the COVID-19 crisis in early 2020 shows massive disparities in access to digital resources across regions, **especially for students from lower socio-economic groups and students from Africa and Asia.** The study identifies massive regional disparities in terms of Internet penetration: while a good Internet connection was reported by 60% of the students on average, only 29% of African higher education students had access to a functional Internet (Aristovnik et al., 2020[21]). Considering all learners, about 56 million of them live in locations not served by mobile networks, almost half in sub-Saharan Africa (UNESCO, 2020[22]). Similarly, a study conducted using high frequency Internet search data shows substantially larger increases in search intensity for online educational resources in areas of the United States with higher income, better Internet access and fewer rural schools (Bacher-Hicks, Goodman and Mulhern, 2020[23]).

Figure 2.4 • Difficulties faced by higher education students in the United States as they transitioned to online learning, by race/ethnicity, May-June 2020



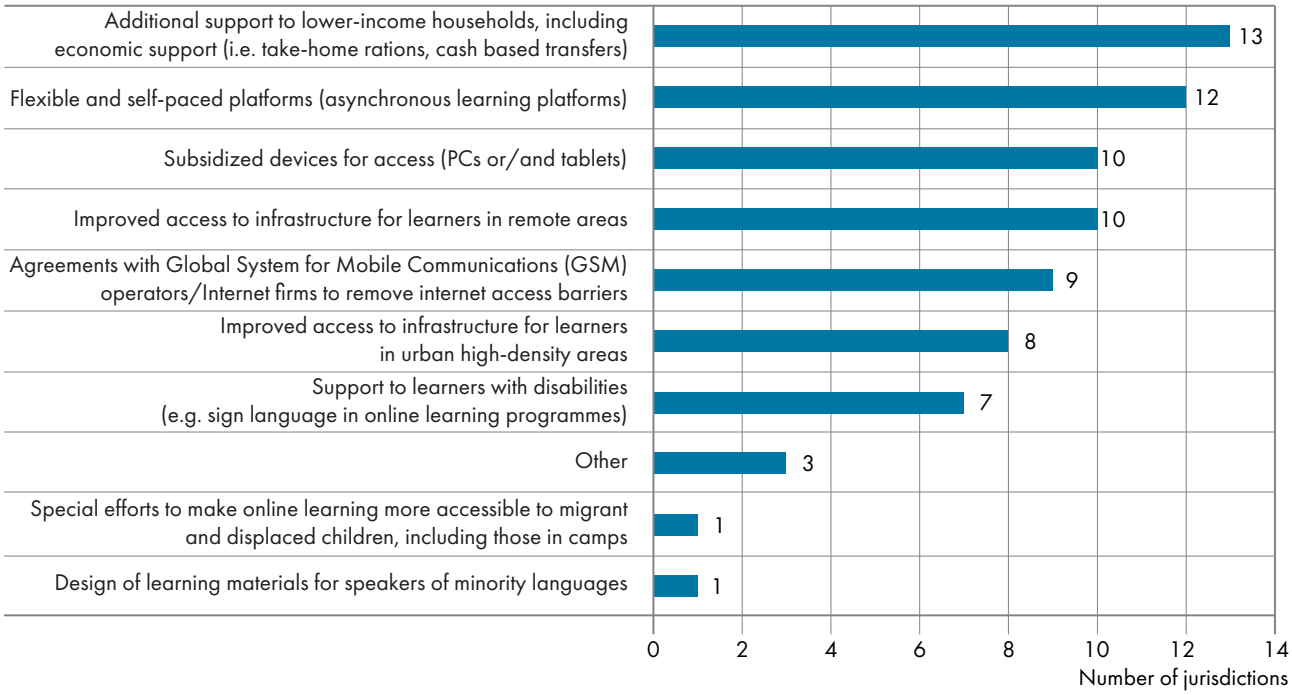
Note: This survey was administrated to a random national sample of 1 008 undergraduates that started with in-person courses before the pandemic and that finished with online courses between May and June 2020 in the United States.
Source: Digital Promise, 2020[20], *A National survey of Undergraduates during the Covid19 pandemic*, https://digitalpromise.org/wp-content/uploads/2020/07/ELE_CoBrand_DP_FINAL_3.pdf.

Targeted measures to support access to digital resources by disadvantaged student groups

To compensate for digital capacity constraints and to reduce inequities and other risks associated with the use of digital technologies in higher education, jurisdictions implemented a number of policy measures during the first wave of institutional closures in 2020. Among the initiatives most reported by education jurisdictions to the OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID were additional support to lower-income households, the provision of flexible and self-paced platforms, subsidised digital devices and improved access to infrastructure for learners in remote areas (Figure 2.5).

In Norway, nationwide initiatives to increase Information and Communications Technologies (ICT) capacity and security were taken. In Sweden, to reduce inequities in access to educational support, universities' libraries and support functions remained open for students with certain needs. Ghana organised training activities to support universities that collaborated with United Kingdom universities to transition to online education. Egypt launched its first digital platform to enable distance learning in the country's universities in partnership with Microsoft and Colombia created CO-LAB, a collaborative platform where universities could share good pedagogical practices and digital resources for online education (Salmi, 2020[6]). In Russia, an online platform, the University 20.35, provides opportunities for professional development (20.35 NTI University, 2020[24]).

Figure 2.5 • Measures targeting populations at risk of exclusion from distance education platforms during the first wave of institutional closures in 2020



Notes: Total responding jurisdictions: 34 (21 of which indicated at least one given measure).
Figure shows number of educational jurisdictions in which a given measure was implemented. Institutions of higher education were not subject to mandatory closures in Japan.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.
https://digitalpromise.org/wp-content/uploads/2020/07/ELE_CoBrand_DP_FINAL_3.pdf.

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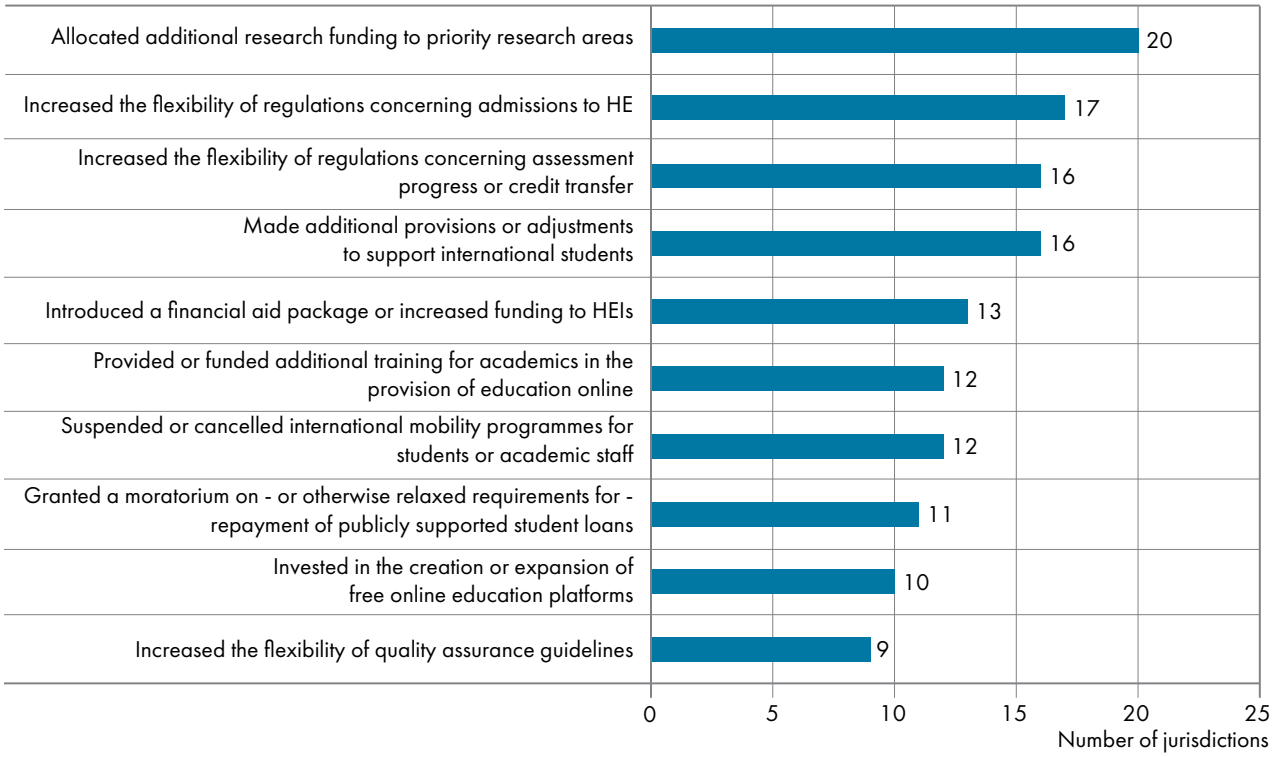
A variety of complementary policy actions backed by additional funding

A variety of immediate policy actions by public authorities

The COVID-19 pandemic forced public authorities to engage in immediate adjustments to a wide range of higher education policies. The Higher Education Policy Survey on Resourcing conducted in 2020 by OECD's Higher Education Policy Programme asked public authorities what actions were taken to manage the impact of the pandemic. The immediate policy action most often taken by governments was to allocate additional research funding to priority research areas associated with the pandemic. Countries also moved quickly to increase the flexibility of regulations concerning admissions, assessment and credit transfer and to support international students, for example by extending their visa validity periods (Figure 2.6). Other policy areas which received attention included financial assistance to students, training on online instruction for academics and the improvement of online education platforms.

Figure 2.6 • Policy actions taken by public authorities in higher education in response to the COVID-19 pandemic crisis

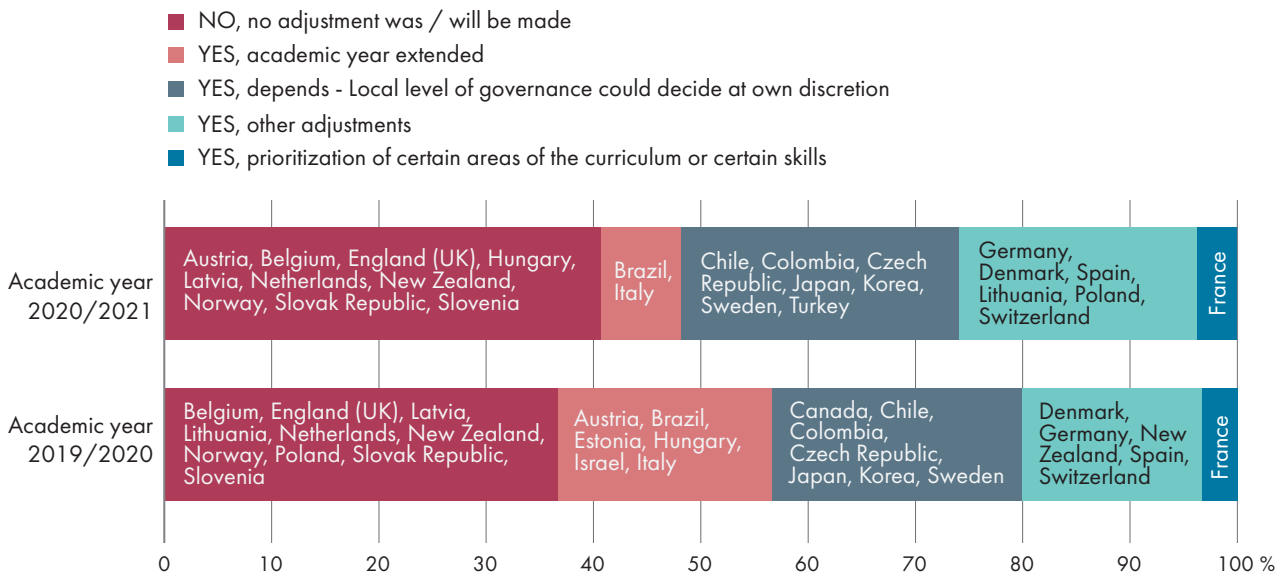


Note: Total jurisdictions responding: 27.
Source: Higher Education Policy Survey 2020 on Resourcing, OECD.

Adjustments to the academic calendar

Closures of physical campuses of higher education institutions reduced available instruction time and forced some jurisdictions to adjust the academic calendar and the curriculum. More than 60% of the jurisdictions with comparable data reported adjustments to the academic calendar or curriculum in 2019/2020 and about 55% in 2020/2021 (Figure 2.7). Typically, adjustments took three forms: changing term dates, adjusted class-meeting times to manage the student population on campus and virtual examinations.

Figure 2.7 • Adjustments to the academic calendar and curriculum due to COVID-19 in 2019/20 and 2020/21



Note: Total responding jurisdictions: 30.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

A number of jurisdictions adjusted the term dates. For example, in Germany and Israel, higher education institutions were allowed to extend the semesters' length if deemed necessary. In Poland, rectors were allowed to change the calendar of the academic year while in Belgium (French Community) the academic year could be extended in 3 months. In Lithuania, 1st year students were allowed to start the academic year two weeks later than planned.

Adjustments were also made to assessment policies. For example, in the Czech Republic, higher education institutions were allowed to conduct state examinations and thesis defenses remotely. In Denmark, the grading system was simplified in a few specific instances to allow institutions to use a "pass/no pass" grading system instead of the numerical grading system. Similarly, in Sweden, higher education institutions could make some changes to curricula retroactively, including examinations. A report published in August 2020 by the OECD **highlights the risks associated with distance online examinations,** including dishonesty, fairness, technical failure, as well as inequities when measuring knowledge and skills online. It also proposes some strategies, the main one being the use of other forms of assessment (OECD, 2020[25]).

Adjustments to the funding of higher education

Slightly more than half of jurisdictions with comparable data (59%) reported having increased the budget devoted to higher education to respond to the impact of the pandemic during the 2019/2020 academic year. The budget for higher education was not adjusted for about a third of the **jurisdictions** while no jurisdiction reported a budget decrease (Table 2.1). Extra expenditures were typically incurred in protective equipment (masks, hydro-alcoholic gel, thermometers, etc.), and the purchase of computer hardware, software and services to ensure pedagogical and administrative continuity. In some countries, like Norway and Sweden, additional public funding was needed to meet increased demand for higher education during the pandemic, namely lifelong learning courses and programmes leading to professions with labour shortages.

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Table 2.1 • Changes planned to the higher education budget in response to the pandemic in 2020

	Total public expenditure in the academic year 2019/2020 (2020 for countries with calendar year) compared to previous year	
Do not know	Costa Rica, Germany, Switzerland	8.8%
Increases	Belgium, Colombia, Denmark, England (United Kingdom), Finland, France, Hungary, Italy, Japan, Korea, Latvia, Netherlands, New Zealand, Norway, Portugal, Russian Federation, Slovenia, Spain, Sweden	58.8%
No changes	Austria, Canada1, Chile, Czech Republic, Estonia, Ireland, Israel, Lithuania, Poland, Slovak Republic, Turkey	32.4%

Note: Total responding jurisdictions: 34.
1. Data for Canada vary across provinces and territories. Data for Japan refer to the period April 2019 - March 2020.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Assisting students in financial distress

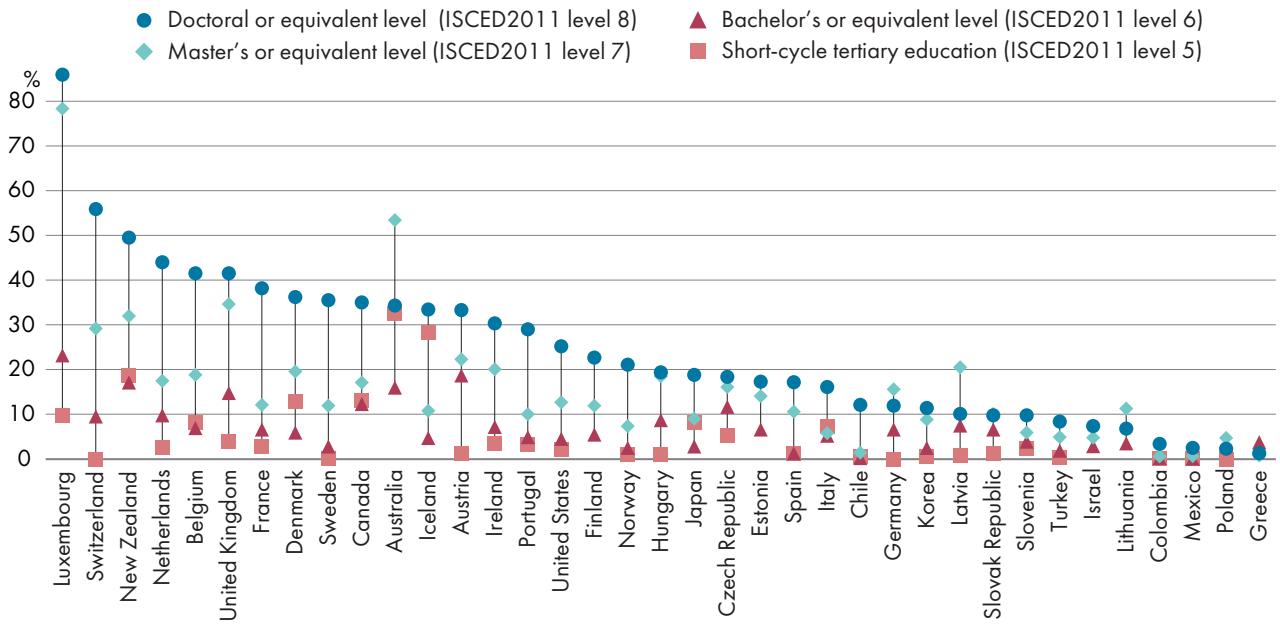
Precarious or diminished family finances, or lower income from part-time work, have led to **student hardship, spurring many countries to provide emergency financial support to students, or, in some, to postpone loan repayment among graduates**. In France and Germany, emergency financial aid was provided to students who had lost their part-time jobs. Germany, by extending the regular period of study to account for the pandemic, extended the period during which eligible students can receive regular financial support. In Korea, a national emergency grant was provided to students experiencing financial difficulties, such as the job loss of a parent due to COVID-19, student loan interest rates were reduced and loan repayments were postponed for graduates facing unemployment due to COVID-19. In addition, in Austria, an additional semester of financial aid to all eligible students regardless of their academic results were put in place; in France, some tuition fees reductions were implemented; and, in Chile, delayed fee payments by students were allowed (Salmi, 2020[6]). However, according to a survey of students conducted in Europe in April 2020, fee levels remained the same for the majority of them (75%). Only 13.8% of students benefited from flexible payment arrangements (Doolan et al., 2021[11]). In New Zealand, while higher education institutions have the autonomy to implement initiatives, the government implemented COVID-19 specific funds for supporting at risk learners for accessing technologies. In the Netherlands, all higher education students unable to graduate in 2019/20 due to institutional closures receive funding for approximately three months of tuition fees to re-enrol the following academic year (OECD, 2020[26]). In Canada, many provinces and territories provided a host of additional emergency supports and special provisions to learners, namely in the form of grants, loan repayment flexibility, loan interest suspensions, and other student financial assistance initiatives. Additionally, in Canada, among other initiatives, the Federal Government created the Canada Emergency Student Benefit (CESB), which provided support to students and new graduates who were financially impacted by COVID-19 from 10 May to 29 August 2020. The CESB provided CAD 1 250 per month for eligible students, with an additional support of CAD 750 (for a total of CAD 2 000) per month for students with dependants or disabilities (Government of Canada, 2020[27]).

Addressing the immediate challenges of international student mobility

Context prior to the pandemic crisis

The COVID-19 pandemic had an immediate impact on international student mobility. The extent to which higher education systems were affected varied according to the proportion of international students in the system and the origin of these students. Foreign and international students indeed account for 1% to 26% of total student share, providing countries with very different exposure to disruptions (Figure 2.8).

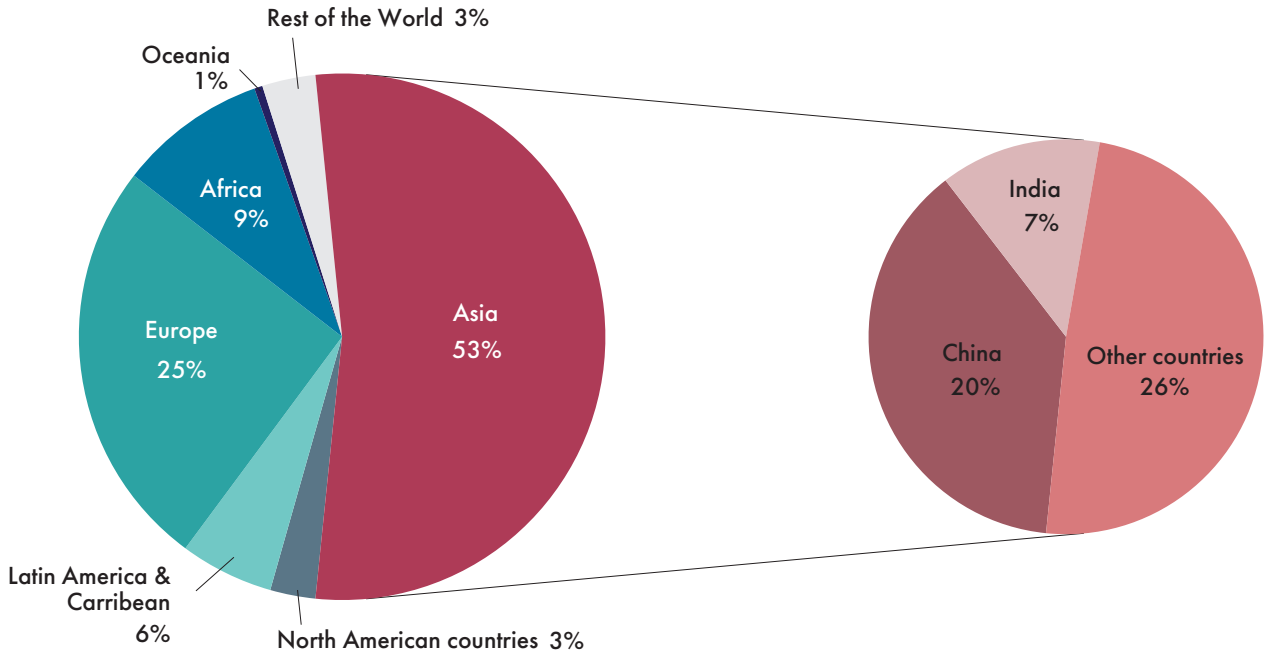
Figure 2.8 • Share of international/foreign students in higher education by programme level, 2018



Source: Adapted from OECD, 2020[28], OECD Education at a Glance (database), (https://doi.org/10.1787/19991487).

In addition, students from **Asia represent 53% of foreign students enrolled worldwide.** The largest numbers of foreign students from this continent are from China, India and Korea (Figure 2.9). In terms of regions of destination, across the OECD area, **Europe is the top destination for higher education students enrolled outside their country of origin,** hosting 47% of these students, followed by North America, which hosts 27% of all international students, and Asia with 14%. At the country level, the top destination remains the United States (22%), followed by the United Kingdom (11%), Australia (10%), and Germany (7%).

Figure 2.9 • Distribution of foreign/international students in tertiary education, by country of origin (2018)



Source: Adapted from (OECD, 2020[28]), OECD Education at a Glance (database), (https://doi.org/10.1787/19991487).

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Impact of the COVID-19 crisis on international students flows

The **impact of the COVID-19 crisis on international student flows seems to differ strongly according to the country, and remains difficult to estimate**. In terms of international student mobility, not all countries responded or were impacted in the same way by the pandemic. Indeed, while some countries decided not to close their borders, others made other choices. For instance, Spain applied the same regulations to both international students and other cross-border travelers. By contrast, while cross-border travelers were not able to enter the Russian Federation, international students could continue to come and study in the country.

While some countries seem to face increases in the share of foreign students, others face an important drop in the number of international students admitted (Table 2.2). Increases were observed in the Czech Republic, Germany, Lithuania, the Netherlands and Switzerland. In the United Kingdom, in the year ending March 2021, there were more than a quarter of a million (250,683) sponsored study visas granted (including dependants), a 16% decrease compared to the previous year (the number of grants to Chinese nationals was 26% lower than the previous year). This reflects an abrupt drop from March 2020 until a resurgence in September 2020 (Government of the United Kingdom, 2021[29]). Similarly, the Cité Internationale Universitaire de Paris in France faced a drop of 17% in applications, in particular among US, Chinese, Brazilian and Indian students (Cité Internationale universitaire de Paris, 2020[30]). In the United States there was a decline of 16% in total international enrolments and of 43% of new students between fall 2019 and fall 2020 (Cardoza, 2020[31]). In Sweden, according to national official statistics, the number of new incoming students in autumn 2020 decreased by 30 percent relative to autumn of 2020 (UKÄ, 2021[32]). According to an instructor-administered survey conducted between 25 March and 17 April 2020, the COVID-19 crisis strongly impacted international student mobility at 89% of the responding institutions, with some regional variation (from 78% of institutions affected in Africa to 95% in Europe) (Marinoni, Van't Land and Jensen, 2020[33]).

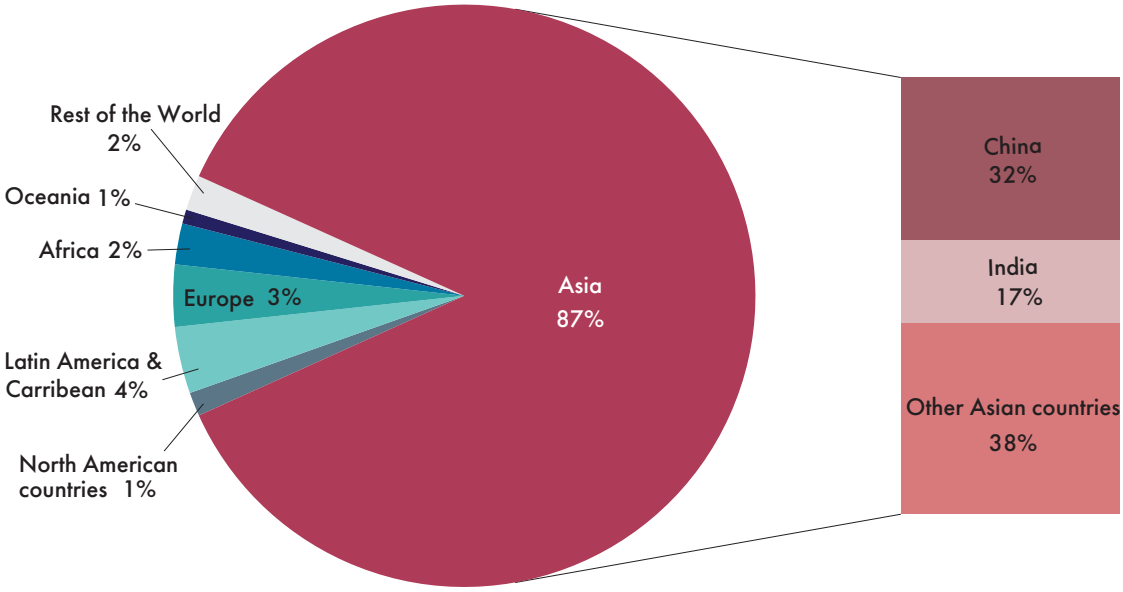
Table 2.2 • Change to the share of foreign/international higher education students between 2019-2020 and 2020-2021

Increasing share of foreign/international students	Czech Republic	+4.2%
	Germany	+1.1%
	Lithuania	+12.7%
	Netherlands	+4.0%
	Switzerland	+0.8%
Decreasing share of foreign/international students	Estonia	-5.5%
	Latvia	-5.8%
	New Zealand[1]	-17.3%
	Sweden[2]	-19.5%

Notes: Total responding jurisdictions: 9.
Data reflect the percentage increase or decrease in the share of foreign/international students between 2019/2020 and 2020/2021 (e.g. in the Czech Republic such share went from 15.4% in 2019/2020 to 16.0% in 2020/2021). The share of international students has been used for all countries except for the Czech Republic for which the share of foreign students has been used.
1. In New Zealand, the change in international students is computed between 2019 and 2020 as the academic year goes from January to December.
2. In Sweden, the total number of international students includes both exchange students and students moving freely. In addition, data for the year 2020/2021 refer to the 2020 autumn semester.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Australia experienced a 12% decline of the number of international enrolments in its higher education institutions, mainly because of the drop in Asian students coming in the country (Figure 2.10), and **probably because new students were not replacing current students as they finished their courses** (Hurley, 2020[34]). Travel restrictions dramatically reduced the number of student visas granted from more than 20,000 primary visa grants in January 2020 to about 6,000 in June 2020 (Ferguson and Love, 2020[35]).

Figure 2.10 • Distribution of foreign/international students in higher education in Australia, by country of origin, 2018



Source: Adapted from (OECD, 2020[28]), OECD Education at a Glance (database), (https://doi.org/10.1787/19991487).

Potential effects of reduced international student mobility

Countries facing a decrease in the share of international students also face **a drop in revenues from international students, affecting in particular those institutions with greater dependence on international fees.** Mobility restrictions resulting from the pandemic can indeed have a significant impact on institutional revenues. Australian universities that enrol large numbers of Chinese students expected to lose between USD 2 billion and USD 3 billion in tuition fees from international students (Witze, 2020[36]). According to the same author, research-intensive universities such as the University of Sydney will be the most impacted as international student fees often cross-subsidise research, while smaller universities could possibly close permanently because of their loss. In Canada, the impact on university revenues was estimated between USD 377 million and USD 3.4 billion (OECD, 2021[37]).

Immediate policy responses to the impact of the COVID-19 on international student mobility

Across the 29 countries responding to the OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID, **13 indicated adjustments to national policies related to the admission of international students in school year 2020/2021**. In Canada, as of October 2020, students who have a valid study permit or have been approved for a study permit and received a letter from the IRCC (Immigration, Refugees and Citizenship Canada) were authorised to travel to Canada. This authorisation was however limited to students attending a designated learning institution that has a COVID-19 readiness plan that has been approved by the respective province or territory. In Italy, universities were allowed to pre-enrol new international students with a "visa pending" status, letting them follow online lessons and take online examinations. In case these students are not be able to come to Italy to complete their courses and formalise their enrolment, universities might recognise their attendance by giving them the credits corresponding to the attended courses.

Similarly, the Swedish Migration Agency has changed its regulation concerning distance studies. While international higher education students could not receive a residence permit for distance studies prior to the pandemic, residence permits for studies are now available for students if more than 50% of the studies during the academic year take place on campus. In addition, the Swedish Ministry of Education also collaborates with the Higher Education Export Association to make the international student admission process more flexible through revisions to legislation. France also put in place regulations to simplify

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international students' admission despite the COVID-19 pandemic crisis including calendar adaptations, the digitalisation of visas and enrolment procedures as well as improvements in the regular communication with international students. Despite these efforts, there has been a 20% decline in visa applications and 25% decline in the number of visas delivered (for 69 082 visas in 2020/2021).

In addition, five jurisdictions (Belgium (French Community), Canada, Hungary, Japan and Korea) have changed the duration of the period during which international students are allowed to stay in the country after their graduation for the purpose of seeking employment or starting up a business (except for Japan for this latter purpose). In Canada, a temporary policy has been established to facilitate the issuance of work permits to current post-graduation work permit holders with soon-to-expire permits and former post-graduation work permit holders, for a maximum duration of 18 months. It came into force on 27 January 2021, and it will be in effect until 27 July 27 2021. Similarly, Korea has issued a residence visa (D-10) for all applicants staying in the country after their graduation for the purpose of seeking employment because of the COVID-19 crisis.

3

Higher education institutions re-opening: lessons and potential implications

Strategies and support for the re-opening of higher education institutions

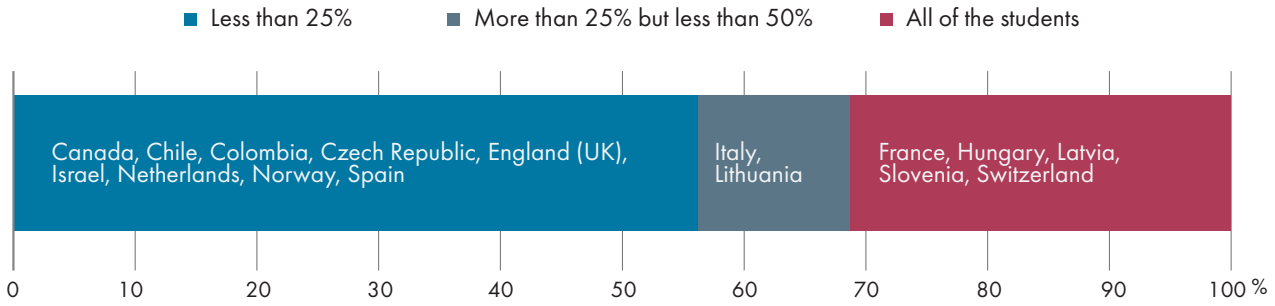
On-site attendance following first wave of institutional closures

In most jurisdictions, a small share of students attended higher education in person in 2020 following the first period of institutional reopenings. Among those **jurisdictions** for which the information is available, only in France, Hungary, Latvia, Slovenia and Switzerland, all students were expected to resume in-person regular classes within institutions of higher education. In other countries, such as the Czech Republic, most higher education institutions independently decided to continue delivering distance education until the end of the semester, even though in-person instruction was permitted (Figure 3.1). In another group of countries, including Austria and the Slovak Republic, higher education instruction remained in distance delivery mode.

Strategies for re-opening higher education institutions

A range of measures was adopted for the re-opening of physical campuses of higher education institutions following the first wave of closures (Figure 3.2). Across all **jurisdictions**, the most common strategies were **adjustments to physical arrangements in institutions and classrooms and combining distance learning with in-person classes.** Other strategies included reducing or suspending non-instructional activities and allowing the return of students by group (e.g. year-level, degree type).

Figure 3.1 • Share of students who attended higher education in person during the first period institutions reopened in 2020



Note: Total responding jurisdictions: 17.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

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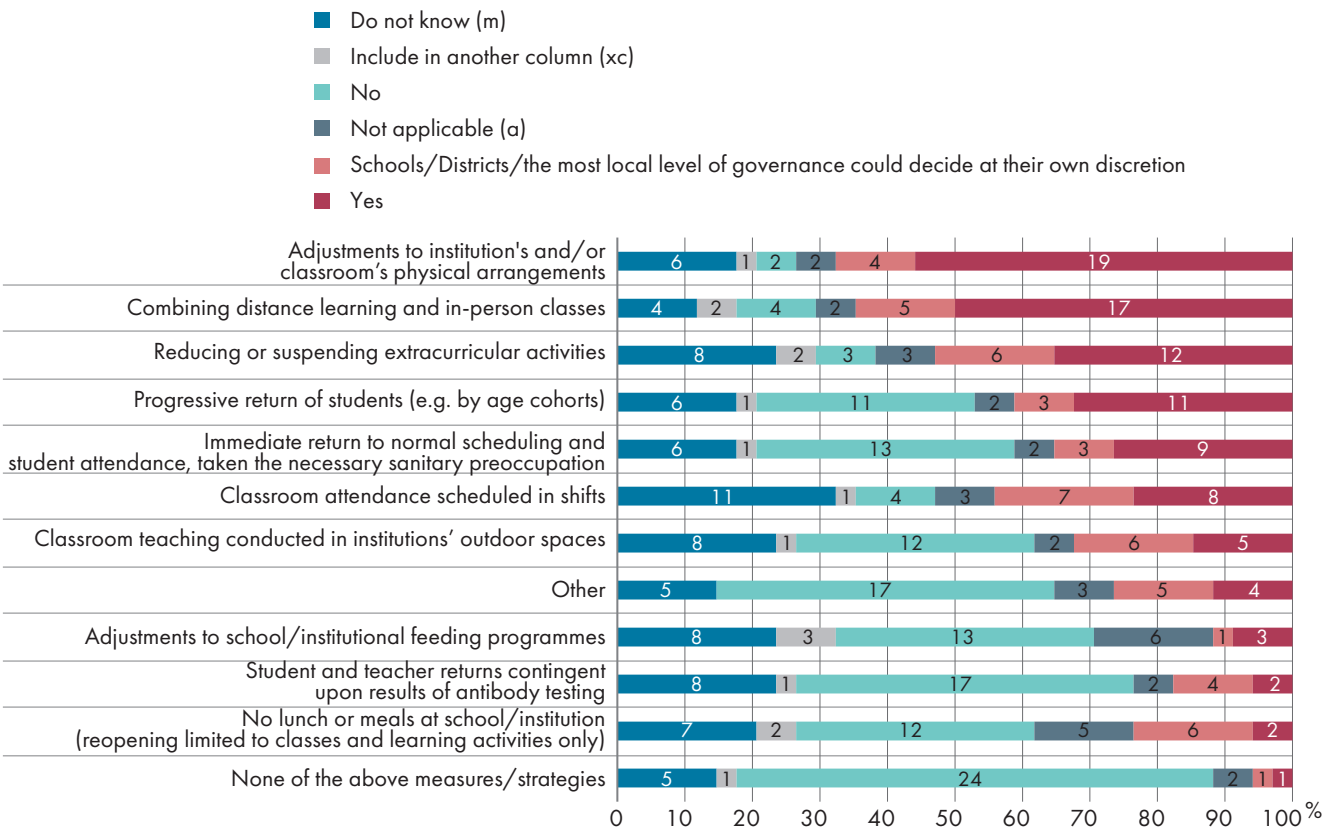
Figure 3.2 • Strategies for re-opening physical campuses of higher education institutions following the first wave of closures in 2020



Notes: Total responding jurisdictions: 34. Figures indicate the number of educational jurisdictions providing the indicated response. In Japan, higher education institutions were not subject to mandatory closure, so answer is based on actual institutional actions. Note that higher education did not re-open in the Slovak Republic, and that higher education was not fully closed in Turkey.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Most countries issued guidelines and recommendations for the re-opening of higher education institutions for in-person instruction. For instance, in Latvia, higher education campuses could be opened as long as the level of COVID-19 transmission was low and the institutions were demonstrating strong compliance with government safety requirements (International school of Riga, 2020[38]). Higher levels of COVID-19 transmission and/or moderate/low compliance by institutions of safety regulations would lead to the recommendation of hybrid learning and eventually the closure of campuses. Similarly, in Poland, the Chief Sanitary Inspector issued guidelines for higher education, including on the use of university libraries, the day-to-day functioning of universities (e.g. through remote sessions of councils and senates if needed), university governance and teaching.

Health and educational organisations collaborated to develop recommendations for a safe re-opening of higher education institutions. For instance, in the United States, the American College Health Agency proposed specific guidance on the implementation of public health measures in colleges (American College Health Association, 2020[39]) and the American Council on Education published guiding principles for higher education leadership when implementing institutional plans for re-opening (American Council on Education, 2020[40]). In addition, many higher education institutions are requiring learners to be vaccinated. As of mid-May 2021, 356 higher education institutions in the United States reported that students and staff would be required to be vaccinated (Thomason and O'Leary, 2021[41])

Remedial measures to address learning gaps when institutions reopened

A large number of jurisdictions provided for remedial measures to address learning gaps of students upon the re-opening of institutions following

the first wave of institutional closures in 2020. Fourteen out of sixteen countries for which information is available organised either an assessment of learning gaps (Czech Republic, Italy, New Zealand and Spain) or remedial measures to reduce student learning gaps (13 countries). The latter was either for all students who needed them (6 countries) or offered in a targeted way to disadvantaged students (8 countries), students unable to access distance learning (6 countries), students at risk of drop-out (8 countries), migrant/refugee/minority/indigenous students (6 countries), students in vocational programmes (8 countries), or students in transition between educational levels (2 countries). In five countries (Belgium, France, Latvia, Slovenia and Spain), remedial measures to address learning gaps were provided outside regular class hours (Table 3.1). In addition, in a large number of other jurisdictions (e.g. Austria, Colombia, England (United Kingdom), Israel, Korea, Norway, Turkey), institutions organised remedial measures at their own discretion.

Table 3.1 [1/2] • Remedial measures to address learning gaps when physical campuses of higher education institutions reopened following the first wave of closures in 2020

Other
No specific scheduling
During scheduled holidays
After learning time (after the normal class time)

	Assessment of gaps in student learning that may have accumulated during institutional closures	Do not know	None	Other	Remedial measures to reduce students' learning gaps (for all students who need it)	Remedial measures with a special focus on disadvantaged students	Remedial measures with a special focus on students who were unable to access distance learning	Remedial measures with a special focus on students at risk of drop-out or of grade repetition	Remedial measures with a special focus on immigrant and refugee students, ethnic minority or indigenous students	Remedial measures with a special focus on students in programmes with a vocational orientation	Remedial measures with a special focus on all students transitioning from one ISCED level to the next
Austria		x		x							
Belgium (Flemish Community)						x		x	x	x	
Belgium (French Community)					x	x	x	x	x	x	
Canada		x									
Colombia		x									
Czech Republic	x							x		x	
Denmark						x		x		x	
England (United Kingdom)				x							
Estonia				x		x	x				x
Finland				x							
France					x	x	x	x	x		
Germany		x									
Hungary					x	x	x	x		x	

Notes: When were remedial measures typically scheduled? [Countries with rows in white did not answer this question]
In Slovenia, remedial measures were organised either during scheduled holidays, after learning time or in other situations.
1. In Israel, no assessment of gaps was established at the national level, but each higher education institution could design its own assessment.
2. In Portugal, response applies only to the year 2019/2020. Specific measures were implemented in 2020/2021. In Turkey, higher education was not fully closed in 2020.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

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Table 3.1[2/2] • Remedial measures to address learning gaps when physical campuses of higher education institutions reopened following the first wave of closures in 2020

Other
No specific scheduling
During scheduled holidays
After learning time (after the normal class time)

	Assessment of gaps in student learning that may have accumulated during institutional closures	Do not know	None	Other	Remedial measures to reduce students' learning gaps (for all students who need it)	Remedial measures with a special focus on disadvantaged students	Remedial measures with a special focus on students who were unable to access distance learning	Remedial measures with a special focus on students at risk of drop-out or of grade repetition	Remedial measures with a special focus on immigrant and refugee students, ethnic minority or indigenous students	Remedial measures with a special focus on students in programmes with a vocational orientation	Remedial measures with a special focus on all students transitioning from one ISCED level to the next
Ireland		x									
Israel[1]			x								
Italy	x										
Korea		x								x	
Latvia					x						
Lithuania		x									
Netherlands		x		x							
New Zealand	x				x	x	x	x	x	x	
Norway			x								
Poland		x		x							
Portugal[2]		x									
Russian Federation		x									
Slovak Republic			x								
Slovenia									x	x	
Spain	x				x	x	x	x	x	x	x
Sweden		x									
Switzerland		x									

Notes: When were remedial measures typically scheduled? [Countries with rows in white did not answer this question]
In Slovenia, remedial measures were organised either during scheduled holidays, after learning time or in other situations.
1. In Israel, no assessment of gaps was established at the national level, but each higher education institution could design its own assessment.
2. In Portugal, response applies only to the year 2019/2020. Specific measures were implemented in 2020/2021. In Turkey, higher education was not fully closed in 2020.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

In the Czech Republic, where higher education institutions have autonomy to assess learning gaps, the New Act for education in 2020 (n°188/2020 (Ministry of Education, 2020[42])) allowed institutions, for the period from 1 March to 31 August 2020, to extend the examination period and provide students with a longer preparation period. In New Zealand, the government created a specific Fund for Tertiary Education Organisations (TEOs) to support their learners, including through the identification of the learning gaps resulting from the COVID-19 pandemic crisis. These funds included hardship support and funding for students to access technology they may otherwise not have had access to. TEOs were given

the autonomy to use the funds at their discretion to support learners in need or at risk of dropping out. In the Netherlands, extensive monitoring was undertaken to evaluate study delay of students and direct appropriate measures to reduce it. To address learning gaps when institutions reopened, France strengthened tutoring in higher education and Denmark encouraged the presence of the most vulnerable students at higher education institutions and recommended giving priority in the physical access to institutions to new students.

Potential implications for the funding of higher education

Short-term adjustments to the public funding of higher education

A large share of jurisdictions with comparable data (68%) reported having increased the public budget devoted to higher education during the 2020/2021 academic year in order to respond to the impact of the pandemic (Table 3.2), a larger share than for the 2019/20 academic year (Table 2.1). In 2020/2021, the budget for higher education was not adjusted for about a fifth of the jurisdictions while no jurisdiction reported a budget decrease. This indicates that during the pandemic period the additional support required to higher education institutions involved an immediate increase of funding for higher education (e.g. health protection equipment, purchase of digital resources).
The increase is also associated, in some countries, with higher demand for higher education, e.g. demand for short courses and lifelong learning in Swedish higher education, increase demand for regular places in higher education in Finland; and exceptional investments in research conducted by higher education institutions, e.g. Austria's Vienna COVID-19 Diagnostics Initiative that invests in new infrastructure to develop capacities for detecting COVID-19 (Vienna COVID-19 Detective Initiative, 2020[43]).

Table 3.2 • Changes planned to the higher education budget in response to the pandemic in 2021

	Total public expenditure in the school year 2020/2021 (2021 for countries with calendar year) compared to previous year	
Do not know	Chile, Costa Rica, Germany, Switzerland	11.8%
Increases	Belgium, Canada[1], Colombia, Denmark, England (United Kingdom), Finland, France, Hungary, Ireland, Israel, Italy, Korea, Latvia, Netherlands, New Zealand, Norway, Portugal, Russian Federation, Slovenia, Spain, Sweden	67.6%
No changes	Austria, Czech Republic, Estonia, Lithuania, Poland, Slovak Republic, Turkey	20.6%

Note: Total responding jurisdictions: 33.
1. In Canada, the information varies across provinces and territories, with an increase observed in most, but not all provinces and territories.
Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Looking more closely at spending categories, in those jurisdictions where increases occurred in the higher education budget (either in 2019/2020 or in 2020/2021) the increase in current expenditure (in 14 jurisdictions in both 2020 and 2021) was more prominent than the increase of capital expenditure (in 7 jurisdictions in 2020 and in 6 jurisdictions in 2021). Among categories within current expenditure, increases in student grants or scholarships and student loans were the most frequent in jurisdictions while the compensation of teachers and other staff only increased in a small number of jurisdictions (France, Hungary, Japan and Slovenia, either in 2020 or 2021) (Table 3.3). It should be noted that these variations in spending are not necessarily a response to the pandemic and may be associated to other policy objectives. In Norway, financial measures were implemented through the State Educational Loan Fund for some students more affected by the COVID-19 pandemic. In Colombia, the Generación E programme (*Generation E programme*) granted public loans as a special education aid plan for higher education students and students with loans received some relief from the Student Aid Agency (ICETEX - *Instituto Colombiano de Crédito Educativo y Estudios Técnicos en el Exterior*).

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Table 3.3[1/2] • Has the distribution of education spending between current and capital expenditures changed/is planned to change as a result of the education response to COVID-19?

	Total current expenditure		Compensation of teachers		Compensation of other staff		Schools meals		Conditional cash transfers	
	2020 compared to 2019	2021 compared to 2020	2020 compared to 2019	2021 compared to 2020	2020 compared to 2019	2021 compared to 2020	2020 compared to 2019	2021 compared to 2020	2020 compared to 2019	2021 compared to 2020
Austria	x	x	x	x	x	x	x	x	x	x
Belgium (French Community)	↑	↑	→	→	→	→	→	→	↑	↑
Belgium (Flemish Community)	↑	↑	→	→	→	→	→	→	→	→
Canada[1]	→	↑	→	x	→	x	x	x	x	x
Chile	→	→	→	→	→	→	→	→	→	→
Colombia	↑	↑	→	→	→	→	→	→	↑	↑
Costa Rica	x	x	x	x	x	x	x	x	x	x
Czech Republic	→	→	→	→	→	→	→	→	→	→
Denmark	■	■	→	■	■	■	■	■	■	■
England (United Kingdom)	↑	↑	→	→	→	→	→	→	↑	↑
Estonia	→	→	→	→	→	→	→	→	→	→
Finland	■	■	■	■	■	■	■	■	→	→
France	↑	↑	↑	↑	↑	↑	↑	↑	→	→
Germany	x	x	x	x	x	x	x	x	x	x
Hungary	↑	↓	→	↑	→	↑	→	→	x	x
Ireland	↑	↑	→	→	→	→	x	x	→	→
Israel	→	→	→	→	→	→	→	→	→	→
Italy	→	→	→	→	↓	↓	↓	↓	→	→
Japan	→	↑	→	↑	→	↑	→	→	→	↑
Korea	■	■	■	■	■	■	■	■	■	■
Latvia	↑	↑	→	→	→	→	→	→	x	x
Lithuania	→	x	→	x	→	x	x	x	→	x
Netherlands	↑	↑	→	→	→	→	■	■	↑	→
New Zealand	↑	↑	x	x	x	x	→	→	→	→
Norway	■	■	■	■	■	■	x	x	x	x
Poland	→	→	→	→	→	→	x	x	x	x
Portugal	↑	↑	→	→	→	→	↓	↓	→	→
Russian Federation	→	→	→	→	→	→	→	→	→	→
Slovak Republic	→	→	→	→	→	→	→	→	→	→
Slovenia	↑	x	↑	x	↑	↑	→	x	↑	↑
Spain	↑	↑	x	x	x	x	x	x	x	x
Sweden	↑	↑	■	■	■	■	x	x	→	→
Switzerland	x	x	x	x	x	x	x	x	x	x
Turkey	x	x	x	x	x	x	x	x	x	x

Note: X means "Do not know or not applicable", ↑ means "increases", ↓ means "decreases", → means "no changes" and ■ means "Schools/Districts/the most local level of governance could decide at their own discretion".

1. In Canada, changes in public spending on higher education in response to COVID-19 varied across provinces and territories.

Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

Table 3.3[2/2] • Has the distribution of education spending between current and capital expenditures changed/is planned to change as a result of the education response to COVID-19?

	Student support (grants or scholarships)		Student loans		Other current expenditure		Total capital expenditure	
	2020 compared to 20a19	2021 compared to 2020	2020 compared to 2019	2021 compared to 2020	2020 compared to 2019	2021 compared to 2020	2020 compared to 2019	2021 compared to 2020
Austria	x	x	x	x	x	x	x	x
Belgium (French Community)	↑	↑	→	→	↑	↑	↑	↑
Belgium (Flemish Community)	↑	→	→	→	↑	↑	→	→
Canada[1]	→	↑	↑	↑	x	x	x	x
Chile	→	→	→	→	→	→	→	→
Colombia	↑	↑	↑	→	→	→	→	→
Costa Rica	x	x	x	x	x	x	x	x
Czech Republic	→	→	→	→	→	→	→	→
Denmark	→	→	↑	↑	■	■	■	■
England (United Kingdom)	→	→	→	→	→	→	→	→
Estonia	→	→	→	→	→	→	→	→
Finland	→	→	→	→	■	■	■	■
France	↑	↑	↑	↑	↑	↑	↑	↑
Germany	x	x	x	x	x	x	x	x
Hungary	→	↑	↑	→	x	x	x	x
Ireland	↑	→	x	x	↑	→	↑	↓
Israel	↑	↑	→	→	→	→	↑	↑
Italy	→	→	→	→	↑	↑	↓	↓
Japan	→	↑	→	↑	→	↑	→	↑
Korea	↑	↑	↑	↑	↑	↑	■	■
Latvia	↑	↑	→	→	→	→	→	→
Lithuania	→	x	x	x	x	x	→	x
Netherlands	↑	→	↑	→	↑	↑	↑	↑
New Zealand	↑	↑	↑	↑	↑	↑	→	x
Norway	↑	→	↑	→	■	■	■	■
Poland	→	→	→	→	→	→	↑	↑
Portugal	↑	↑	↑	↑	↑	↑	x	x
Russian Federation	→	→	→	→	→	→	→	→
Slovak Republic	→	→	→	→	→	→	→	→
Slovenia	→	x	x	x	↑	x	↑	x
Spain	x	x	x	x	x	x	x	x
Sweden	↑	↑	↑	↑	■	■	■	■
Switzerland	x	x	x	x	x	x	x	x
Turkey	x	x	x	x	x	x	x	x

Note: X means "Do not know or not applicable", ↑ means "increases", ↓ means "decreases", → means "no changes" and ■ means "Schools/Districts/the most local level of governance could decide at their own discretion".

1. In Canada, changes in public spending on higher education in response to COVID-19 varied across provinces and territories.

Source: OECD/UNESCO-UIS/UNICEF/World Bank Special Survey on COVID. March 2021.

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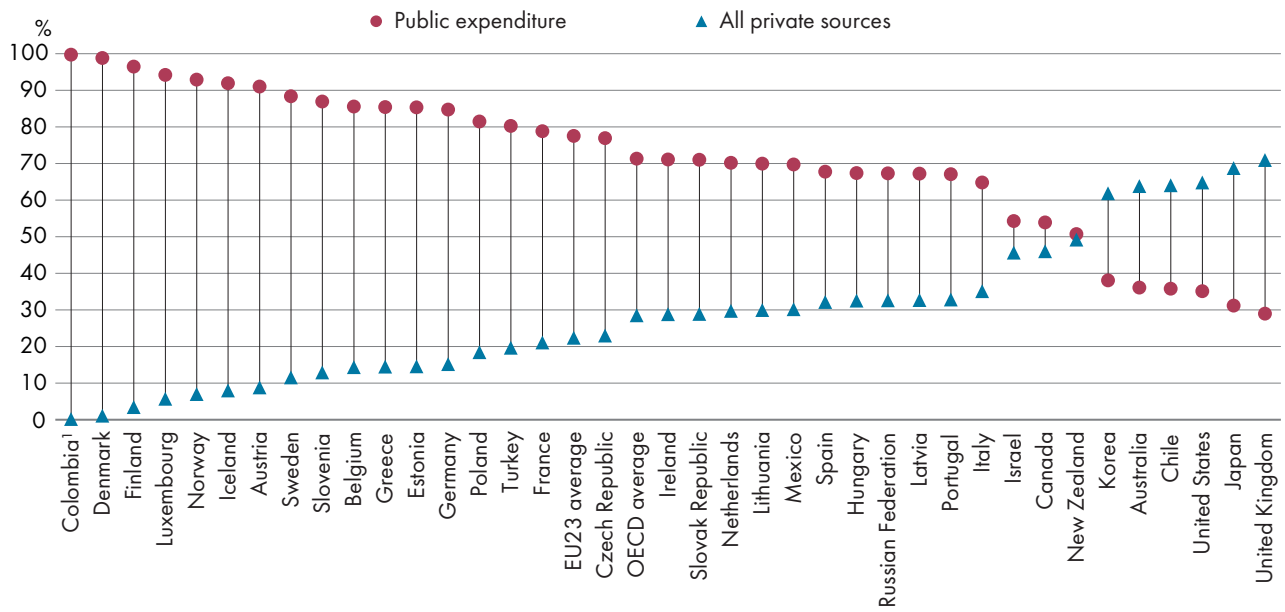
Longer-term impact on the funding of higher education

The COVID-19 crisis has led to unprecedented fiscal efforts in most countries to support public health systems, protect businesses from bankruptcy, and assist households in hardship. In the coming years, as significant resources will be needed for the health sector, job protection and the economic recovery, **public education budgets may be under pressure.** While public funding for foundational education levels (e.g., early childhood education, school education) is more likely to be safeguarded, **public funding for higher education could be at greater risk.** According to a study conducted by the European University Association (Estermann et al., 2020[44]), there is a significant risk that public funding allocations across European countries decrease in the coming years, when countries will face the economic consequences of the COVID-19 crisis. This can already be observed in the United States where public funding declined by $1.7 billion (1.8%) in 2021 from the previous year, with strong state-by-state variations and an overall 2.7% decline in state funding for higher education (Kelchen, Ritter and Webber, 2021[45]). In addition, declines in public funding to subsidise attendance will be more difficult to offset with increased fees, owing to sharp reductions in household incomes. Increasing student/educator ratios and diminished student targeted support might reduce the quality of instruction and learning in higher education, and result in higher drop-out rates, particularly among disadvantaged students.

In the longer term, higher reliance on private income may make some higher education institutions more vulnerable to rapid changes in student enrolment, and open debates about the pricing of online instruction. (Figure 3.3). Higher education systems substantially funded through household spending and in which fees are charged at the point of enrolment appear more vulnerable to falls in enrolment. In the United States the fall 2020 enrolment of recent high school graduates fell by 6.8% compared to the class of 2019 – and at a rate of 11.4% in high poverty high schools (National Student Clearinghouse, 2021[46]). A recent study in the United States predicts that most public colleges, private nonprofit colleges, and rural colleges will experience moderate cumulative losses (no loss, loss <25% of 2019 revenue) over the next five years, while cumulative revenue losses will be the most severe (>50% of 2019 revenue) among institutions with fewer than 1 000 students, Historically Black Colleges and Universities (HBCUs), and certain for-profit colleges as a result of the COVID-19 pandemic (Kelchen, Ritter and Webber, 2021[45]). While Anglophone countries were impacted in the short term by travel restrictions affecting revenues from international tuition fees, they will probably be also impacted in the longer-term by decreasing domestic tuition revenues. According to a report by the Institute of Fiscal Studies, the COVID-19 crisis posed a significant financial risk to the United Kingdom's higher education sector, as 13 universities would end up with negative reserves and would be at risk of insolvency (Bolton and Hubble, 2021[47]). Moreover, in the short term the transition to emergency remote instruction spurred pricing debates in countries with high tuition fees (United States, United Kingdom, notably), with students arguing that fees for online courses and programmes should be lower than those charged for in-person instruction. This may lead governments and higher education institutions to propose different fees for exclusively online courses in the future. **Higher education systems that are primarily publicly funded were not immediately affected** by the loss of substantial tuition fee income. However, the experience with large recessions, such as the 2008 financial crisis, indicates that real public funding may decline in the wake of the economic fall-out from COVID-19.

A number of factors are likely to determine the resilience of higher education systems to the post-COVID-19 economic and financial context (Table 3.4), including public sector borrowing rules, domestic student lending systems and the level and diversity of international students. The impact on the finances of higher education institutions are likely to be affected by the ability of both public funders and the target student population to access funds in a time of crisis. If public funders can borrow to compensate for reduced tax revenue, this will help make the higher education system more resilient. If students can borrow to cover the costs of study under favourable conditions, this also makes it more likely they will be able to study, even if the economic situations worsens. The design of student lending systems has multiple implications in times of crisis: inflexible systems increase the debt burden on existing graduates (as they lose jobs and are unable to maintain repayments) and may dissuade new students from enrolling in higher education to avoid taking on debt. In addition, low levels of international enrolment or a highly diversified pattern of international enrolment are likely to increase resilience.

Figure 3.3 • Distribution of public and private expenditure on educational institutions, 2017



1. Data for Colombia refer to 2018.
Source: Adapted from OECD, 2020[28], OECD Education at a Glance (database), (https://doi.org/10.1787/19991487).

Table 3.4 • Potential factors determining the resilience of higher education systems to the post-COVID-19 economic and financial context

Resilience	Public Funding	Private Funding
High	No public sector borrowing limitations	Income-contingent lending Diversified international enrolment (or, low numbers)
Moderate	Public sector borrowing targets but not legal enforcement	Fixed and variable repayment of loans with average levels of fee-paying international students
Low	Borrowing subject to limits set in constitution or by international supervision	Fixed repayment schedule High international enrolment with low diversification of sources

A drop in revenues **may also have a significant impact on academic staff employment.** On average, across OECD countries, staff costs comprise 2/3 of spending by higher education institutions. However, differences exist across countries. While European countries tend to be more permeable to the crisis as their systems are based on fixed staffing costs, high public funding and high public borrowing limits, Anglophone countries seem to be less resilient in the short term. Australia faced a drop of higher education employment of 17 300 jobs in 2020 (Universities Australia, 2021[48]). In the United States, between February and August 2020, almost 337 000 jobs were lost from higher education institutions in the United States (a drop of 7.5%) (Bauman, 2020[49]). This reflects both the sensitivity of US higher education institutions, which are very dependent on tuition fees, to changes in enrolment and the flexible labour market arrangements in US higher education for non-tenured staff. In systems where these two conditions are not present, such changes in employment are not observed.

To tackle the financial challenges they may face, higher education institutions should be fully engaged in creating new synergies and opportunities, develop new income sources as well as deeply transform management strategies (Estermann et al., 2020[44]) – as suggested below.

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Intensified integration of digital technology into higher education

According to a webinar on digitalisation in higher education conducted by the OECD on 29 October 2020 and attended by 155 participants from 22 OECD countries, **one change likely to remain after the pandemic ends is the intensified integration of digital technology into higher education** (OECD, 2020[50]). Higher education institutions have been adopting digital technologies for decades, albeit unevenly, and sometimes slowly, across a wide range of their administrative, educational, and research activities. The COVID-19 crisis spurred an acceleration and deepening of digitalisation in teaching and learning: in course design, instruction, assessment, learning analytics and credentialing, among others.

Despite some of the challenges seen in the COVID-19-driven emergency remote instruction, there is demand among students and prospective students for more flexible study options – online learning and part-time options in particular. This may include new online/part-time traditional qualifications (e.g. Bachelor's or Master's programmes); revised versions of existing programmes (e.g. a blended or online version of an existing programme); and alternative credentials such as certificate programmes or MOOCs. Most likely, more flexible digital provision is likely to complement – rather than substitute - traditional higher education in some areas. There is a growing body of evidence that shows that higher education programmes of different types can be delivered effectively – and in some cases more efficiently - using various combinations of online teaching. Table 3.5 elaborates on potential approaches to expand online provision as a complement to traditional higher education, through the online/blended provision of traditional programmes, new types of online/blended programmes and digitalising components in campus-based programmes. A likely trajectory might be the development of a hybrid model in which higher education institutions develop a more differentiated range of educational offerings for different target audiences by combining external, online provision, in-house deployment of increasingly advanced learning technologies and face-to-face interaction (Roy, 2022[51])

Table 3.5 • Expanding online provision as a complement to traditional higher education

Fully online / blended traditional programmes	New types of online / blended programmes (Microcredentials or Alternative credentials)	Digitalising components in campus-based programmes
• Suited to motivated students with strong capacity for self-study and self-direction • Well suited to post-graduate and some professional programmes • Less suited to subjects with strong practical component (nursing, medicine, natural sciences) • Well suited to students with work and family responsibilities who prefer flexible learning provision	• Suited to motivated students with strong capacity for self-study and self-direction • Likely to provide complementary qualifications (certificates, badges), rather than replace traditional programmes • Can be embedded into traditional programmes	• Online lectures offer opportunities for economies of scale, sharing expertise and enhanced quality if done well • Digitalisation of routine elements of learning can free up time and space for increased interaction between students and between students and teachers

The success of this digitalisation process may depend on identifying the programme types and components of programmes that are most suitable for digitalisation (taking into account the subject; the target student audience; the type of activity etc); giving attention to student expectations and needs; considering employment expectations and needs; ensuring that staff have the skills and support to deliver quality digital learning opportunities; and having regulatory and quality frameworks that permit flexibility to innovate.

In principle, the use of digital technology in higher education holds great promise, including transforming teaching and learning practices (e.g. virtual teaching, experimental learning, real-time assessment); widening access to non-traditional learners; reducing instructional costs; improving opportunities for student and teacher collaboration; and expanding individualised and adaptive instruction. This requires higher education institutions to commit to the development of a next-generation learning environment, which may include large-scale investments in hardware and

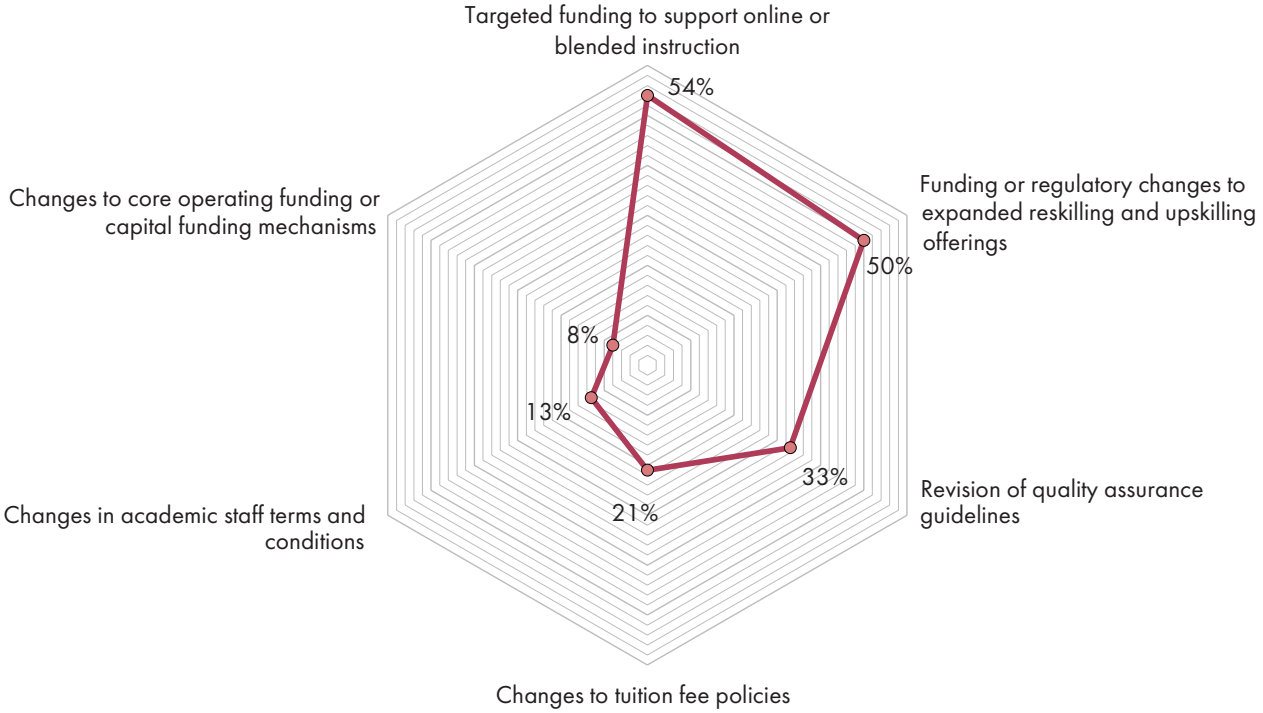
software, revisions to academic contracts and workload models, sufficient time and training for teaching staff, and adapting pedagogical and assessment approaches to the new digital environment. Another important aspect is to ensure that higher education and research institutions steer the digitalisation process to ensure that the services offered by educational technology providers are responsive to the needs of teachers and students, and grounded in educational research.

However, the use of digital technology also carries with it serious risks – to the confidentiality of learners' personal information; to the quality of the digital resources used; to academic integrity in assessment; to the potential loss of important developmental experiences outside of the classroom, including peer learning and work-based learning opportunities; to widening inequalities among institutions, staff and learners resulting from unequal access to digital technologies; and to disparities in the capacity of instructors and students to make full use of its potential.

At the same time, the use of digital technology in higher education may require further financial investment. Universities Canada has suggested that the transition from a face-to-face to an accessible, high-quality online class would have strong financial impacts and could cost about USD$25,000 per course, not factoring in the salary costs of faculty (Universities Canada, 2020[52]). The costs and pace of transition pose a challenge to all higher education institutions, but especially for smaller ones, which may not have the same financial resources to quickly transit to online learning.

As a result, policymakers have begun to recognise that realising the potential of digitalisation in higher education will require an extended re-examination and revision of the policies for which they bear responsibility, including the funding of institutions and students; the ways in which instructional staff are supported and rewarded; the monitoring and assurance of quality; and the ways in which learning is credentialed and verified. Digitalised learning risks creating new inequalities among learners, while also creating new models of learning (e.g. competency-based learning) and new ways of credentialing learning (such as microcredentials). This will require student support systems to adjust to reduce risks of new inequalities while permitting innovative models of learning and credentialing to emerge. Similarly, academic career structures may need to be adjusted to incentivise instructors to make effective use of digitalisation in teaching. In addition, the criteria and methods used by quality assurance agencies may need adjustment for the quality of hybrid and fully online models of instruction to be properly monitored. There are indications that governments are already contemplating financial support for new ways of learning and considering the needed adjustments to the regulatory policy framework (Figure 3.4).

Figure 3.4 • Additional policy measures under discussion or consideration in response to the impact of COVID-19 by OECD educational jurisdictions



Note: Total jurisdictions responding = 24.
Source: Higher Education Policy Survey 2020 on Resourcing, OECD.

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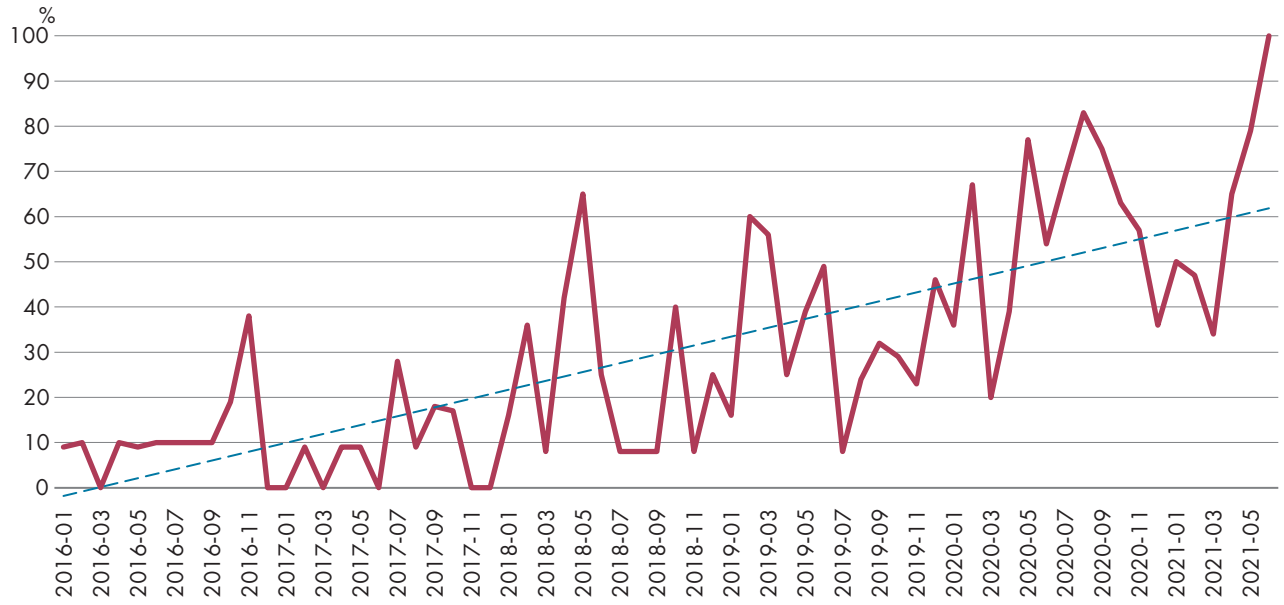
A stronger role for higher education in lifelong learning through more flexible, blended learning options

The cost of completing higher education coupled with uncertain returns may deter individuals from beginning or returning to higher education following the COVID-19 pandemic, especially disadvantaged populations. **Instead, they may seek to acquire new skills and credentials through less costly opportunities, including the short online courses they might have become familiar with during the COVID-19 crisis.** Also, many adult learners who seek to re-skill or up-skill will seek to acquire labour market relevant skills in a flexible and affordable manner, including through online opportunities, and by acquiring less expensive and more rapid alternatives to academic degrees, including certificates, industry-recognised certifications, and microcredentials. As shown in Figure 3.5, there has been an increasing interest for the term "microcredentials", and mainly since March 2020, which coincides with the COVID-19 lockdowns implemented across the world.

Figure 3.5 • Worldwide Google searches for the term "microcredentials



Note: Numbers represent keyword searches typed by Internet users in relation to the total number of searches carried out on Google over a given period and region. A value of 100 is the peak popularity for the term.
Source: (GoogleTrends, 2020[53]), Microcredentials, https://trends.google.fr/trends/explore?q=microcredentials.

Many analysts consider that these so-called "alternative credentials" have the potential to alter the landscape of higher education provision (Kato, Galán-Muros and Weko, 2020[54]). While evidence indicates that on average the value of the traditional higher education degrees remains high, alternative credentials have been receiving more attention from both learners and higher education providers in the context of the COVID-19 pandemic (Gallagher, 2018[55]). For higher education institutions, these new credentials hold promise of allowing them to offer highly adaptive, innovative and cost-efficient offerings, since they are often based upon curriculum and assessment acquired from external providers, including partnerships with external course providers and online learning platforms. For example, Coursera for Campus, a partnership scheme between the online learning platform and higher education institutions, created more than 3 700 partnerships since its launch at the end of 2019 (Coursera, 2020[56]). This type of collaboration between higher education institutions and educational technology companies provides them with a capacity to rapidly respond to learner demands, and may persist beyond the end of the pandemic and form part of the "new normal". There are also signs that higher education institutions and staff are responding to student demands for increased flexibility (Table 3.6).

Table 3.6 • Institutional strategies to attract new higher education students, according to staff of higher education institutions, 2020

	US	UK	NL	FR	ES	AU	NORD	TOTAL
More online learning options	71%	49%	59%	45%	71%	63%	63%	60%
More part-time classes	43%	41%	41%	38%	36%	43%	38%	40%
Competency-based programs	35%	42%	28%	36%	39%	46%	25%	38%
Partnerships with corporate employers	30%	39%	34%	30%	38%	41%	25%	35%
Credentialing	35%	25%	31%	27%	23%	32%	25%	29%
A la carte course options	33%	21%	18%	37%	39%	21%	0%	28%

Note: Based on online quantitative survey conducted by Ipsos, in collaboration with Salesforce.org and the Chronicle of Higher Education, with 2200 higher education students and staff across 10 countries between 10 August – 9 September 2020. US – United States, UK – United Kingdom, NL – Netherlands, FR – France, ES – Spain, AU – Australia and NORD – Nordic.
Source: (Tableau, 2020[57]), Global HED Trends Snapshot, https://public.tableau.com/profile/salesforce.org.research#!/vizhome/GlobalHEDTrendsSnapshot/Overview.

Governments, too, view shorter learning programmes as a tool to quickly up-skill and re-skill laid-off workers, and better align their skills profiles to labour market demand. For example, the Portuguese government launched the "Skills 4 post-COVIDvid" initiative in May 2020, aiming to equip the unemployed with specialised-skills that are highly demanded in the labour market through the provision of micro-credential programmes (Government of Portugal, 2020[58]).

Though promising, many questions remain about these alternative credentials. There is uncertainty among quality assurance bodies and government funders about how new credentials can be incorporated into qualification frameworks, how their quality can be assured, how to fund their provision and uptake by higher education institutions and learners, how to make their access equitable, how to capture them in existing labour market information systems, and how to monitor their economic payoff to learners. Some governments are working towards integrating alternative credentials into their national quality assurance frameworks. For example, in 2018, the New Zealand Qualifications Authority (NZQA) developed a scheme to assess quality of these new credentials and recognise those satisfying their quality standards, while the nation's Tertiary Education Commission began to offer funding to providers of these new credentials ((NZQA), 2019[59]). Similarly, the European Commission has engaged in the development of A European approach to micro credentials as a focus of its skills and digital education agendas (EC, 2020[60]).

Hence, policymakers are now engaged in reflection and debate as they take stock of opportunities made possible by digital technologies, and identify **how their public policy framework can be redesigned to better accommodate the needs of non-traditional learners in higher education** – while guarding against the risk that novel opportunities for learning yield little learning and few prospects for professional advancement.

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