

## 2. Source, methodology and technical notes for Chapter B

### List of indicators

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### Description

This document is intended to provide guidance as to the methodology used during the data collection for each indicator, the references to the sources and the specific notes for each country. For general information on methodology, please refer to the *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications* (OECD, 2018<sup>[1]</sup>).

**Table 2.1. Sources, methods and technical notes for UOE enrolment data in Indicators B1, B2, B6 and the Education at a Glance Database**

<b>INST</b>	This sheet compiles all countries comments and missing data in ENRL1A-INST and ENRL1B-INST
<b>AGE</b>	This sheet compiles all countries comments and missing data in ENRL2-AGE&FP and ENRL3-AGE&P
<b>FIELD</b>	This sheet compiles all countries comments and missing data in ENRL4-FIELD and ENRL5-MOB&FIELD
<b>COUNTRY</b>	This sheet compiles all countries comments and missing data in ENRL6-MOB&COUNTRY
<b>REPEATER</b>	This sheet compiles all countries comments and missing data in ENRL7-REP
<b>GRADE</b>	This sheet compiles all countries comments and missing data in ENRL8-GRADE
<b>ADULT</b>	This sheet compiles all countries comments and missing data in ENRL9-ADULT
<b>METADATA</b>	This sheet compiles all countries selected information in Val_Metadata

**Note:** The Education at a Glance database can be found at <http://stats.oecd.org/>.

StatLink 2 <https://stat.link/1mecws>

**Table 2.2. Sources, methods and technical notes for UOE entrants data in Indicator B4 and the Education at a Glance Database**

<b>AGE</b>	This sheet compiles all countries comments and missing data in ENTR1-Age and ENTR2-Mobile&Age
<b>FIELD</b>	This sheet compiles all countries comments and missing data in ENTR3-Field
<b>METADATA</b>	This sheet compiles all countries selected information in Val_Metadadata


**Note:** The Education at a Glance database can be found at <http://stats.oecd.org/>.

StatLink  <https://stat.link/3gp7oq>

**Table 2.3. Sources, methods and technical notes for UOE graduates data in Indicator B5 and the Education at a Glance Database**

<b>INST</b>	This sheet compiles all countries comments and missing data in GRAD1-INST
<b>AGE</b>	This sheet compiles all countries comments and missing data in GRAD2-AGE, GRAD3-FIRST&AGE and GRAD4-MOB&AGE
<b>FIELD</b>	This sheet compiles all countries comments and missing data in GRAD5-FIELD and GRAD6-MOB&FIELD
<b>COUNTRY</b>	This sheet compiles all countries comments and missing data in GRAD7-MOB&COUNTRY
<b>METADATA</b>	This sheet compiles all countries selected information in Val_Metadadata

**Note:** The Education at a Glance database can be found at <http://stats.oecd.org/>.

StatLink  <https://stat.link/wem4tn>

**Table 2.4. Sources, methods and technical notes for UOE personnel data in Indicators B2, D7 and the Education at a Glance Database**

<b>STUD</b>	This sheet compiles all countries comments and missing data in PERS1-STUD
<b>INST</b>	This sheet compiles all countries comments and missing data in PERS2-INST
<b>AGE</b>	This sheet compiles all countries comments and missing data in PERS3-AGE
<b>MANAGEMENT</b>	This sheet compiles all countries comments and missing data in PERS4-MANA
<b>METADATA</b>	This sheet compiles all countries selected information in Val_Metadadata

**Note:** The Education at a Glance database can be found at <http://stats.oecd.org/>.

StatLink  <https://stat.link/vp6or8>

## Indicator B1. Who participates in education?

### **Methodology**

Data generally refer to the school year 2020/21. Statistics that relate participation data to population data are published for the reference date that was used by national authorities for these statistics. It is assumed that age references in the enrolment data refer to 1 January of the reference year. For Australia, 30 June is used as the reference date for ages in both enrolments and population data for all education levels except pre-primary, which

has the reference date 1 July for enrolments. For Japan, 1 April is used as the reference date for ages in population data and 1 May is used as the reference date for enrolments. For the United States, 1 October is used as the reference date for ages in enrolments data, but the reference date for ages in population data is 31 October.

The dates or periods at which students, educational staff and educational institutions were counted were not provided by all countries. Some countries collect these statistics through surveys or administrative records at the beginning of the school year while others collect them during the school year, and yet others at the end of the school year or at multiple points during the school year. It should be noted that differences in the reference dates between, for example, enrolment data and population data can lead to overestimated or underestimated figures (for instance, net enrolment rates exceeding 100%) when there is a significant decrease or increase over time in any of the variables involved. If the reference date for students' ages used in the enrolment data differs from the reference date for the population data (usually 1 January of the reference year), this can be a further source of error in enrolment rates.

Since the calculation of enrolment rates is based on different data sources and sometimes includes estimates, the calculated enrolment rates were slightly higher than 100% in a few instances. In those cases, the enrolment rate was rounded down to 100%.

Information on the sources and instruments used by countries to collect data on enrolments is given in EAG2023\_Annex3\_ChapterB\_ENRL (Table 2.1, which also indicates missing data points and explanatory notes on the raw data collected).

## **Source**

Data on enrolments are based on the UOE data collection on education systems administered annually by the United Nations Educational, Scientific and Cultural Organization (UNESCO) International Standard Classification of Education (ISCED), the OECD and Eurostat for all OECD and partner countries. Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

## **Notes on specific countries**

### *Australia*

Break in series in 2018. The methodology to attribute students to public and private institutions at ISCED levels 3 to 5 and to attribute students to vocational programmes at ISCED levels 2 to 5 was improved.

Given the needs of users and producers of statistics on education and other factors unique to the Australian education system, total consistency of the concordance between levels of education in Australian Standard Classification of Education (ASCED) and ISCED has not been possible.

The number of VET (Vocational Education and Training) student enrolments at ISCED 3 (vocational) is underrepresented due to the requirements for reporting ISCED. Senior secondary students are able to study VET programmes from Certificate I to Certificate IV concurrently, however these students are classified as ISCED 3 (general) if the programmes or the students do not meet the criteria for higher ISCED levels. Further, if students are undertaking general and vocational programmes concurrently, and their main programme is general education, these students are considered as undertaking general programmes to mitigate the technical issue with double counting. As a result, in 2021, while approximately 44% of all senior secondary students (15-19 year-olds) undertook VET studies in Australia as reported in ASCED, the vast majority of these students were reported in ISCED as upper secondary general students. The enrolment rates of this cohort were 35% for ISCED 3 (general), 7% for ISCED 3 (vocational) and 1% for ISCED 4 (post-secondary non-tertiary programmes where only vocational programmes are reported) in 2021.

*Austria*

Data exclude participants in short courses for sports instructors.

*Belgium*

Data on the German-speaking Community are not integrated in the enrolments data for Belgium; however the population data refer to Belgium (and therefore include the German-speaking Community). Data on independent private institutions refer to European Schools (ISCED 1 – 2 – 3) and, at higher education levels, only refer to the Flemish Community. About 120 000 adult learners (French Community) at ISCED level 2 to 7 are not included in the data broken down by age, which may lead to the underestimation of enrolment rates, especially in the age group 20-22.

Data on enrolments in ISCED 55 programmes from the French-speaking Community are marginal and are included in enrolments in ISCED 6 programmes. Break in series in 2019/20; from this year, associate degree programmes of higher vocational education (at ISCED 5) are organised by university colleges. Previously, these courses could be followed at the centres for adult education. An exception to this is the HBO5 nursing course, which will still be organised by secondary schools, in a partnership with a university college. In addition to the associate degree programmes, the university colleges also offer the HBO5 courses (phasing out) for students who had already started this course at a centre for adult education. However, in 2021, more data was available on ISCED 5 related fields of study.

Data collection by field of study and mobility status is undergoing an ongoing process of being improved, which may explain some fluctuations in trend data.

Data on enrolments by age for the French Community of Belgium in the years 2005 and 2013 are based on estimations regarding adults who have returned to education after the age of 18. Data on such enrolments are missing for 2020.

*Brazil*

People in military careers are excluded. Special education programmes are included.

*Canada*

The ending age of compulsory education is 16 except in Ontario, New Brunswick, Manitoba and Nunavut where it is 18. Data on enrolments by field of study at ISCED 5 exclude private institutions.

*Chile*

As of 2018, Chile revised the methodology to attribute students to upper secondary general and vocational programmes. This was done to better reflect the structure of upper secondary education, in which two years of upper secondary education are taught under a general formation programme in sciences and humanities. After the successful completion of the second year, students can opt to continue in a differentiated general or vocational programme for the remaining two years of upper secondary education. The revised methodology was implemented for years as of year 2019.

The share of students by category at ISCED 3 excludes ISCED 341 and the share of students by age and category excludes students younger than 16.

Some children are enrolled in special needs education (some type of disability) for whom a homologation has been carried out, assigning them to a traditional ISCED level. This allocation is mostly independent of their age.

### *Czech Republic*

Break in series in 2017/18. The 2016 Higher Education Law introduced new study programmes, the fields of a small number of old study programmes were reclassified for better quality data. A new data collection was introduced for post-secondary non-tertiary education, resulting in a lower total number of students at this level. A new data collection was introduced for bachelor's, master's and equivalent, resulting in a lower total number of part-time students at these levels.

From 2020, programmes at ISCED 65 that were previously classified as childcare and youth services (Field F0922) are classified as training for pre-school teachers (Field F0112).

Data on part-time students by age at ISCED 4 covers only students in general programmes.

### *Denmark*

In the school year 2019/20, several institutions providing ISCED 342 programmes became classified as public institutions, leading to a decreased in the number of enrolments reported from private institutions.

A reform of two social and health education programmes on 1 January 2017 led to an increase in their length. This has contributed to an increase in the number of enrolments in welfare programmes (Field F092).

The creation of a new education programme in 2019/20 that is classified as a social sciences, journalism, and information programme (Field F03) contributed to an increase in the number of enrolments reported in this field at ISCED 75. In the same year, a new special youth education programme was established, which contributed to a rise in the number of enrolments in ISCED 342. The increased number of enrolments at this level is also partly due to the reclassification of an education programme from ISCED level 251 to ISCED level 342.

### *Estonia*

The classification of institutions was modified in 2016 (school year 2015/16). The majority of ISCED 0-3 independent private institutions were classified as government-dependent private institutions due to core funding received from government agencies. Government-dependent private universities (ISCED 6-8) were classified as public universities due to overall control criteria. These changes lead to non-compatibility by type of institution between year 2015 and year 2016.

### *Finland*

Finland's vocational education system (ISCED 3 vocational, ISCED 4 vocational) was revised in 2018. This had an impact on legislation, qualification system, financing, monitoring and provision of vocational education. The changes affect the data from school year 2018-19 and calendar year 2018 onwards. Due to the changes in the vocational education system the data is not wholly comparable to previous years.

The data source on enrolments at ISCED levels 3-4 changed to the Finnish National Agency for Education's KOSKI data warehouse data in school year 2019-20. Previously data were based on Statistics Finland's data collections. This causes some differences in the data on students especially for ISCED 3-4 vocational education. E.g. data on enrolment in vocational school- and work-based programmes (ISCED 3) is the situation in 20 September starting from the school year 2019-20. Previously this data covered the whole school year.

Break in series regarding the division of ISCED 3 and 4 vocational education enrolment to public and government-dependent private institutions in 2019/20. From school year 2019/20 onwards, data on vocational education are based on the Finnish National Agency for Education's KOSKI data warehouse data. This led to a change in the reporting of vocational school- and work-based programmes. Previously, all students in vocational school- and work-based programmes were recorded as enrolling in public institutions. From 2019/20, information is available on whether enrolments in vocational education at ISCED 3 and 4 are in public or government-dependent institutions.

### *France*

The classification of students by type of institutions at ISCED levels 4-8 changed as of school year 2017/18. In addition, there is a break in time series in the classification by field of education due to change in methodology as of school year 2017/18.

### *Germany*

Full-time education is compulsory until age 16; for 16–18-year-olds, part-time education is compulsory. Beginning with 2016, figures are impacted by the unusually high immigration, especially asylum seekers. Enrolment data for 2005 were proxied by 2006 data.

Data on enrolments at ISCED 554 are based on annual results of statistics on graduates of Advanced vocational training (*Aufstiegsfortbildung*). The first pilot study used 2018/19 data from providers of advanced vocational training programmes to estimate the number of enrolments and entrants. Results are forecasted in the years that follow by using given numbers of graduates. In 2020, there was a decrease in the number of graduates due to the COVID-19 pandemic.

Break in series from 2019/20, after which a new data source for ISCED 844 (*Promovierendenstatistik*) based on administrative data has been used. Previously, statistics were based on data collected in sampled surveys. In addition, the criterion used to identify mobile students in 2019/20 was citizenship, instead of country of prior education as in previous years.

### *Greece*

As of 2019/20, most ISCED 75 programmes were abolished or integrated into ISCED 74 programmes, contributing to an increase in the number of enrolments reported at ISCED 74 in 2020. In this year, technological institutions were also either abolished or integrated into universities. This led to a decrease in enrolments in ISCED 65 programmes as there were no new entrants to this level in 2019/20.

### *Hungary*

Compulsory education starts in the calendar year when the child turns 6 until 31 August, but not more than one year later, and ends when the student turns 16. As regards students that began their studies in 9th grade in the 2011/2012 school year or earlier, their compulsory education shall terminate at the end of the school year in which they turn 18. The programme orientation of 'Upper vocational grammar schools' has been modified and is no longer qualify as general, but as vocational programmes; this reform was introduced in the 2016/2017 academic year.

### *Iceland*

All students in evening classes and distance learning at ISCED 3 and 4 are counted as students in adult education, irrespective of their age or the programme attended.

In May 2021 the requirements for entry to tertiary education were changed, so all students who have completed programmes at EQF level 4 can enter tertiary education, starting from the autumn of 2021.

### *Ireland*

The data collection on ISCED 5 private institutions is on a voluntary basis and does not cover all enrolments at this level. All leaving certificate programmes are classified as secondary general education. Programmes from [SOLAS agency](#) were reported as post-secondary non-tertiary vocational programmes until year 2015/16, while the education level breakdown is available starting with year 2016/17 between upper secondary and post-secondary non-tertiary vocational programmes.

### *Israel*

Israel has mandatory military service from ages 18 to 21 for men and 18 to 20 for women. This postpones the age of enrolment in post-secondary and tertiary education. In 2016, Israel updated the methodology to track enrolment in independent private institutions, which may result in a break in series with respect to previous years. Data on ISCED 5 independent private institutions are no longer collected.

### *Italy*

The increase in participation and school expectancy is largely due to the fact that compulsory schooling was extended to the age of 15 in 1999/2000. Legislation on compulsory schooling has progressively changed since then. Italy has moved away from the concept of compulsory school attendance until a required age to the principle of the right and obligation to receive education or training until the age of 18. This principle has been fully enforced since 2003. As of school year 2016/17, ISCED 4 enrolments are included with upper secondary education (ISCED 3).

### *Japan*

Full-time equivalents in tertiary education are calculated as the sum of the number of full-time students and 50% of the part-time students.

### *Korea*

In 2009, there was a change in the Elementary and Secondary Education Act affecting the age of enrolment. This affected students born in 2002, who were in first grade in 2009. To reflect this change, only a 10-month range was included in the survey for that particular age cohort. The age cohort of 16- and 17-year-olds enrolled in ISCED 3 in 2020 is therefore smaller than in previous years.

### *Latvia*

According to international definitions, most higher education institutions in Latvia are classified as private government-dependant due to their autonomy and governance model, although they are considered nationally as public institutions.

### *Lithuania*

After the adoption of amendments to the Law on Vocational Education in 2018, the principles of admission to vocational education programmes were changed. In 2020, modular vocational training programmes were introduced. Students studying in lower secondary education programmes can gain qualifications through modules

### *Luxembourg*

A significant proportion of the youth cohort study in neighbouring countries. Nearly all students in tertiary education have to study outside the country. The data for tertiary education (ISCED 5, 6, 7 and 8) is underestimated as it does not cover all tertiary programmes. Enrolment rates for Luxembourg are underestimated because many resident students go to school in the neighbouring countries.

### *New Zealand*

“Upper Secondary” as used in this publication includes programmes done both as part of the initial compulsory school system, and programmes done in post-schooling institutions. Initial school-based upper secondary education is generally-oriented, while the large majority of post-school study at ISCED 3 is vocational. Both systems have different funding and regulatory arrangements, and different types of students. While initial upper

secondary mainly relates to students aged 15-18, adults of any age can enrol in post-school programmes at ISCED 3.

While general and vocational education at ISCED 3 level is not exclusively split between initial and post-initial schooling in New Zealand, to better help policy makers and other readers interpret and use comparisons at ISCED level 3, all New Zealand results relating to New Zealand's initial schooling upper secondary system have been reported as "upper secondary general" (ISCED 34), while all results relating to New Zealand's post-schooling ISCED 3 system (level 1-3 qualifications on the NZQF) have been reported as "upper secondary vocational" (ISCED 35).

In 2018, changes in the way people participating in formal education in the workplace were counted, and the availability of a new survey on students in private institutions, led to a break in the time series for enrolment indicators at ISCED levels 35 and 4. i.e. enrolment indicators for ISCED levels 35 and 4 from 2018 on cannot be compared to those of previous years.

In 2020, government interventions related to the pandemic contributed to increased numbers of enrolments in ISCED 4 programmes. Relevant measures taken include the Targeted Training and Apprenticeship fund (TTAF), which made fees free for students enrolled in qualifications in specific industries (see <https://www.tec.govt.nz/funding/funding-and-performance/funding/fund-finder/targeted-training-and-apprenticeship-fund>). Another initiative, Apprenticeship Boost, provides subsidies to employers to take on and retain first and second year apprentices (see <https://www.workandincome.govt.nz/employers/subsidies-training-and-other-help/apprenticeship-boost/index.html>).

### Norway

In 2018, there was a change in the Vocational Education Act. As a result, certain education programmes were considered as tertiary level (at ISCED 554) for the first time. Programmes previously classified as ISCED 453 have since been reclassified as ISCED 454 since they give access to programmes at ISCED 554, which are now considered as tertiary.

### Poland

Full-time compulsory education normally continues until pupils are 16 years old (i.e. the age for completion of the lower secondary level (*gimnazjum*)). Part-time compulsory education, however, in schools or out of school, lasts until 18 years of age (based on the constitution of the Republic of Poland adopted in 1997). In the school year 2004/05 one year of obligatory pre-school education for 6-year-olds was introduced by the Ministry of National Education and Sport. Since September 2009 Early Childhood Education and Care (ECEC) became a legal entitlement for 5-year-olds. In school years from 2011/12 to 2015/16 the start of compulsory pre-primary education was extended to age 5. Since September 2015, ECEC became a legal entitlement for 4-year-olds. Due to changes in the education system, starting from September 2016 ECEC became compulsory for 6-year-olds while the starting for primary school became 7. ECEC became a legal entitlement for 3-year-old children from September 2017. The reorganization of the education system in Poland in 2017/18 included changes in the primary and lower secondary education: lower secondary schools were abolished and replaced by 8-year-long primary school which covers two ISCED levels of primary and lower secondary education (so-called single structure education). All adult students (part-time students) of the new primary schools are reported as enrolled in ISCED 2.

As of 2019/20, the reporting of enrolments in post-secondary schools are not separated into those of young people and adults. Previously, all students in such institutions were considered as part-time students. From 2019/20, the calculation of the number of enrolments at ISCED 4 can draw on new information about the form of learning in post-secondary schools, between full-time (day and other) programmes and part-time/extramural programmes.



In Poland, the Higher Education Act allows for newly admitted students in their first year of study not to be assigned to a particular programme. Increasing number of students in “Field unknown” (Field F99) can be explained by the growing popularity of “individual inter-field studies”.

### *Slovenia*

Break in series in data by field of study in year 2017/18 at ISCED level 8 for fields 05 Natural sciences, mathematics and statistics, 07 Engineering, manufacturing and construction, 08 Agriculture, forestry, fisheries and veterinary and 09 Health and Welfare.

### *Slovak Republic*

The study load of study programmes is equal for full-time and part-time students in Slovakia. The difference is in intensity of school attendance: part-time students have to pay more attention to self-study.

### *Spain*

Doctoral studies are being modified in Spain within the Bologna Process, possibly affecting enrolment at this level. Students with the new system have direct access to the phase of the thesis development. In the past system, they had to follow doctoral courses before working on their thesis.

### *Sweden*

In 2019/20, the Swedish National Agency for Higher Vocational Education recoded some of their programmes. This contributed to some fluctuations in trend data e.g. the increase in the number of students in management and administration (Field F0413) and the decrease in students in secretarial and office work (Field F0415).

### *Switzerland*

In most cantons, compulsory pre-primary education (kindergarten or a first learning cycle) starts in August when the child turns 4 before 31 July in the same calendar year and lasts for two years. In a few cantons of German-speaking Switzerland, there is no obligation to send children to kindergarten, or only an obligation of one year. Nevertheless, the vast majority of children in these cantons attend kindergarten also for two years.

### *United Kingdom*

The rapid growth of “free” and “academy” schools (England only) has led to a significant reduction in the proportion of students attending public schools with a corresponding increase in those attending government-dependent private schools. Enrolment data are split between general/academic education programmes and vocational/professional programmes based on institution type. At ISCED 2-3 levels, programmes taken in school settings are classed as general and programmes taken in Further Education settings (e.g. FE colleges) are classed as vocational. At ISCED 5, programmes taken in university settings are classed as academic and programmes taken in Further Education settings (e.g. FE colleges) are classed as professional. ISCED 5 professional programmes also include a small number of bachelor's and master's professional programmes.

Break in series. A new subject coding system - the Higher Education Classification of Subjects (HECoS) - was implemented in 2019/20, therefore field of study data before 2019/20 is not directly comparable with data from 2019/20 onwards. For further information please see [The Higher Education Classification of Subjects \(HECoS\)](#).

## *United States*

There is no standard, federally determined age at which one can leave school. Every state determines the age at which compulsory school attendance ends, and it generally ranges from 16 to 18. In 2018, the United States reclassified all the enrolment data on upper secondary education as general programmes.

For data on enrolments by type of institution and age, the data source was updated from National Post-secondary Student Aid Study 2015-16 (NPSAS:15-16) to NPSAS: 18-AC in 2020. This contributed to some changes in the number of enrolments reported, at ISCED levels 45, 5, 6, and 8 in 2020 and 2021 compared to prior years.

## **Indicator B2. How do early childhood education and care systems differ around the world?**

### ***Methodology***

Data refer to the school year 2020/21 and financial year 2020. Statistics that relate participation data to population data are published for the reference date that was used by national authorities for these statistics. It is assumed that age references in the enrolment data refer to 1 January of the reference year. For Australia, 30 June is used as the reference date for ages in both enrolments and population data for all education levels except pre-primary, which has the reference date 1 July for enrolments. For Japan, 1 April is used as the reference date for ages in population data and 1 May is used as the reference date for enrolment statistics. In addition, 1 October (age at 30 September) is used as the reference date for enrolment statistics in day care centres. For the United States, 1 October is used as the reference date for ages in enrolment data, but the reference date for ages in population data is 31 October.

The dates or periods at which students, educational staff and educational institutions were counted were not provided by all countries. Some countries collect these statistics through surveys or administrative records at the beginning of the school year while others collect them during the school year, and yet others at the end of the school year or at multiple points during the school year. It should be noted that differences in the reference dates between, for example, enrolment data and population data can lead to overestimated or underestimated figures (for instance, net enrolment rates exceeding 100%) when there is a significant decrease or increase over time in any of the variables involved. If the reference date for students' ages used in the enrolment data differs from the reference date for the population data (usually 1 January of the reference year), this can be a further source of error in enrolment rates.

The concepts used to define full-time and part-time participation at other ISCED levels, such as study load, child participation, and the academic value or progress that the study represents, are not easily applicable to ISCED level 0. In addition, the number of daily or weekly hours that represent typical full-time enrolment in an education programme at ISCED level 0 varies widely between countries. Because of this, full-time-equivalents cannot be calculated for ISCED level 0 programmes in the same way as for other ISCED levels. It explains why expenditure data per child are reported in Education at a Glance 2023 in head counts and not using full-time equivalents.

Estimated expenditure for all children aged 3 to 5 enrolled in ECEC and primary education: The calculation of this new measure is based on the distribution of children aged 3-5 enrolled in ISCED 01, ISCED 02 and primary education (ISCED 1). For each country, the calculation was based on what proportion of all children enrolled at each of these three ISCED levels were aged 3-5. For instance, in Australia, children aged 3-5 accounted for 3% of all children enrolled in ISCED 01, 99% of all children enrolled in ISCED 02 and 11% of all children enrolled in ISCED 1. These percentages were used to estimate total expenditure for all children aged 3-5 enrolled in ECEC and primary education. Total expenditure for all children aged 3-5 is calculated by: 3% of all expenditure in ISCED 01 and 99% of all expenditure in ISCED 02 and 11% of all expenditure in ISCED 1. A similar calculation was made for all countries.

Information on the sources and instruments used by countries to collect data on enrolments is given in EAG2023\_Annex3\_ChapterB\_ENRL (Table 2.1) and EAG2023\_Annex3\_ChapterB\_PERS (Table 2.4), which also indicate missing data points and explanatory notes on the raw data collected.

### **Source**

Data on enrolments and finance are based on the UOE data collection on education systems administered annually by UNESCO, the OECD and Eurostat for all OECD and partner countries. Some additional data on ECEC services outside the scope of ISCED-2011 have been collected during the UOE cleaning process through the enrolment trend formula file in 2022. Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

### **Interpretation**

Metadata on the specific ECEC programmes available in OECD and partner countries were collected in the period December 2021 to January 2022. Information will be communicated in the form of a PowerBI visualisation by the OECD Secretariat in the coming weeks, on the following topics:

- Information on key features of ECEC provision available in countries, including: the theoretical starting age and duration of programmes and whether childcare components are integrated into programmes.
- Information about ECEC services that do not meet ISCED criteria to be defined as an educational programme.
- Ages of compulsory education and types of access to ECE (early childhood education), including universal entitlements (when every child has the legally enforceable right to access ECE) and free access to ECE (i.e. no tuition fees).
- Duration and intensity with which children participate in the various ECEC programmes as well as information on staff qualification requirements (for teachers and teachers' aides and their equivalents).

### **Notes on specific countries**

#### *Australia*

From the 2015 reference year, Australia reported full-time equivalent enrolments in ISCED 0 as head counts. In previous years full-time equivalent enrolments were estimated based on the average hours per week. This has affected results for expenditure per student compared with previous years. In addition, from 2016 reference year all children aged three years enrolled in Long Day care centres have been reported as enrolled in ISCED 02 (pre-primary). In previous years three-year-olds in Long Day care centres were only reported in ISCED 02 (pre-primary) if they were recorded as enrolled in a pre-school program. However, that data element is no longer collected. Hence, the enrolment rates for three-year-olds in ISCED 01 and ISCED 02 are not comparable before and after 2016.

#### *Belgium*

Enrolment data do not include the German-speaking Community. Data on independent private institutions refer to the European Schools. For these reasons, enrolment figures have a lower coverage than the population, which leads to an underestimation of enrolment rates.

#### *Chile*

The last level of ISCED 02 (Kinder, for 5-year-old children) was established as mandatory through law 20.710 of 2013. However, the law that brings this norm to practice is currently in process of approval. Enrolments at ISCED 02 include children enrolled in special needs education, regardless of their age.

*Colombia*

Data on ISCED 01 by age refer only to pupils enrolled in public institutions. The COVID 19 pandemic could be one of the reasons for the decrease in the number of ISCED 1 and ISCED 01 teachers.

*Estonia*

Early childhood education (ISCED 0) data for Estonia cannot be disaggregated into early childhood educational development (ISCED 01) and pre-primary education (ISCED 02) since Estonia has a fully unitary system of ECEC that integrates both care and education before children begin primary school. There is one curriculum for all ages up to six years old. The classification of institutions was modified since 2016 (school year 2015/16). The majority of ISCED 0-3 independent private institutions were classified as government-dependent private institutions due to core funding received from government agencies. These changes lead to non-compatibility by type of institution between year 2015 and year 2016. Additionally, it is important to take note that educational expenditure comparison in ECEC can be done only since year 2014, because before that year 70% of the pre-primary education was considered non-educational and therefore not submitted to UOE data collection. Since 2014, all expenditure (100%) on pre- primary education is considered educational.

*Finland*

Age and gender distribution are partly estimated at ISCED 0. The distribution of expenditure to ISCED 01 Early childhood educational development and ISCED 02 Pre-primary education is an estimate based on the estimated difference between expenditure per children at ISCED 01 and ISCED 02. The estimate is based on the difference in stipulated group sizes at ISCED 01 and ISCED 02 (the stipulated group sizes are bigger in ISCED 02 than in ISCED 01). In personnel data ISCED 02 Pre-primary education includes also ISCED 01 Early childhood educational development.

*France*

From EAG2022 data on teachers and students have been backdated to 2015 using a further improved methodology. Consequently, data before 2015 cannot be presented. Data only covers educational system under the supervision of ministries of national education. The total of private institutions is equal to government-dependent private institutions. Data on independent private institutions are incomplete, but this is a sector with negligible weight.

*Germany*

The reference year for the trend data is 2006 (school year 2005/2006) instead of 2005. The reason for the deviating reference year is the restructuring of major parts of education statistics in 2006. Due to this break in time series, it is not possible to calculate reference data for 2005.

*Greece*

ISCED 01 was considered as incomplete and was reported as missing.

*Ireland*

The expenditure on early childhood educational institutions figure does not include spending on integrated care and education, which accounts for a significant portion of public spending and a larger proportion of private spending. In Ireland only spending on the free pre-school ECEC programme is classified as ISCED 02. Other public spending is not classified as ISCED 0 as it supports both care and education, though it often has a similar educational focus to the ECEC programme.

### *Israel*

Break in time series. In 2016, the method of data collection was changed and use of the LFS (Labour Force Survey) allowed for the collection of broader information about private institutions. This contributed to an increase in the number of enrolments reported for children aged 0 to 3 years.

### *Italy*

The theoretical starting age of early childhood education programmes is 3 years but children who will be 3 years of age by 30 April may also access these programmes if places are available.

### *Japan*

The coverage of staff (teachers, teachers' aides) in the Table showing child-to-staff ratios and the data reported in the indicator on financing of ECEC in ISCED 02 are limited to some ECEC services (Kindergartens and Kindergarten Department of Special Needs Education School). Currently, the percentage of children enrolled in reported ECEC services (Kindergartens and Kindergarten Department of Special Needs Education School) is approximately 42% of 3- to 5-year-old children enrolled in all ECEC services.

Day care centre and integrated centre for early childhood education and care are excluded of these two indicators.

As for public expenditure for day care centre and integrated centre for early childhood education and care, both public and private facilities have been paid operating expenses and facility maintenance expenses, etc.

Since October 2019, free early childhood education and care is a universal legal entitlement for children aged 3-5 enrolled in ECEC services.

### *Luxembourg*

Starting from scholar year 2009/2010, early childhood education, pre-primary and primary education are grouped in a coherent and continuous programme called "*enseignement fondamentale*". This programme is divided into four cycles. The first cycle, corresponding to pre-primary education spans for 3 years. The first year, early childhood education, is not compulsory, the second and third years, for pupils aged 4 and 5, are compulsory.

### *Slovak Republic*

Students with special educational needs or from socially disadvantaged backgrounds, who are older than the theoretical age intended, can attend kindergartens or preparatory classes at ISCED 0 before enrolling in primary education.

### *Switzerland*

In most cantons compulsory pre-primary education (kindergarten or a first learning cycle) starts in August when the child turns 4 before 31 July in the same calendar year and lasts for two years. In a few cantons of German-speaking Switzerland, there is no obligation to send children to kindergarten, or only an obligation of one year. Nevertheless, most children in these cantons attend kindergarten also for two years.

### *United Kingdom*

From 2018, the methodology for calculating FT/PT/FTE enrolment in government-dependent private institutions is based on 15 hours of provision to match with government policy (universal entitlement). Before 2018, intensity was based on 25 hours of provision. This presents a break in the time series. Enrolment figures in government-dependent private institutions (in PERS-STU and FIN-STU ISCED 01) only cover pupils from the age at which

they become eligible for some funded early education (from age 2 for selected pupils). This results in an underestimation of student figures at ISCED 01 level.

### *United States*

The COVID 19 pandemic could help explain the decline of students in ISCED 02 student enrolment between 2020 and 2021.

## Indicator B3. Who is expected to complete upper secondary education?

### **Methodology**

There are two main methods for calculating completion rates, the true-cohort method and the cross-cohort method.

The **true-cohort method** requires following an entry cohort through a specific time frame, which in the case of this survey corresponds to the theoretical duration  $N$  and the theoretical duration plus three years ( $N+2$ ). Only countries with longitudinal surveys or registers are able to provide such information. Panel data can be available in the form of an individual student registry (a system including unique personal ID numbers for students) or a cohort of students used for conducting a longitudinal survey.

The **cross-cohort method** only requires the number of new entrants to a given ISCED level and the number of graduates  $N$  years later, where  $N$  corresponds to the theoretical duration of the programme. Under the assumption of constant student flows (constant increase or decrease in the number of students entering a given ISCED level throughout the years), the cross-cohort completion is closer to a total completion rate (i.e. the completion rate of all students, regardless of the time it took them to graduate).

### **Source**

Data in Indicator B3 are based on the 2022 ad-hoc survey on upper secondary completion rates administered triennially by the OECD for OECD and partner countries. The data collection period was December 2022 to January 2023. The survey collected information on upper secondary education programmes ISCED levels 343, 344, 353 (vocational programmes without access to tertiary education) and 354 (vocational programmes with access to tertiary education).

The reference year for new entrants and graduates follow the same guidelines as in the UOE data collection. New entrants in 2018, for example, refer to those who entered either in the Aug/Sept of 2017 or in Jan/Feb of 2018, depending on the country's academic year. Similarly, graduates in 2021 refer to students who graduates either in May/Jun of 2021 or in Nov/Dec of 2021.

The 2022 ad-hoc survey also collected a range of metadata on national policies, studies, and contextual information relevant to the interpretation of data on completion and (non-)continuation. For the first time, the data collection on upper secondary completion rates sheds light on transition patterns after upper secondary education.

### **Notes on specific countries**

#### *Austria*

Male students often complete compulsory military or community service after graduating from upper secondary education.

#### *Belgium (French Community)*

To enter tertiary education, a student must have obtained a *Certificat d'Enseignement Secondaire Supérieur*, (Certificate of Upper Secondary Education - CESS). The 353 programmes only allow a student to obtain a CESS if he has completed a 7th year (classified in French-speaking Belgium at ISCED 4 level). It is also possible to repeat the last 2 years of secondary education in another (qualifying) program.

In 2021, the repetition rate has dropped sharply, as a result, the completion rate has increased.

### *Belgium (Flemish Community)*

The theoretical duration of all programmes is four years (two stages of two years), except for pupils in vocational secondary education (BSO) who graduate with a diploma of secondary education, in which case the theoretical duration is five years. Students in upper secondary BSO programmes can graduate in the second year of the third stage and receive a certificate of secondary education (equivalent to ISCED 353 – a vocational programme which does not provide access to tertiary education) or they can continue for an additional year in the third stage and graduate with a diploma of secondary education (ISCED 354 – a vocational programme which provides direct access to tertiary education). Based on this structure the number of entrants is reported to BSO according to whether they attend the additional year and receive a diploma of secondary education or not. New entrants to ISCED 353 vocational programmes are all new entrants to BSO programmes minus those new entrants who later graduate from the third year of the third stage with a diploma of secondary education. Students who enrol in the third year of the third stage but drop out before they graduate are also counted as new entrants to ISCED 353 vocational programmes as they receive a certificate after the second year of the third stage. Students who receive a certificate of secondary education in N years (i.e. within the theoretical duration), but a diploma of secondary education in N+2 years are counted as new entrants to ISCED 353 vocational programmes who graduate within N years.

The data used come from the administrative registers of the Flemish Ministry for Education and Training. These registers contain a number of characteristics of students and their career in the Flemish education system. The data in this survey is based on the information available in the 'DWH O&V (Databank *Beleidsinformatie over het Vlaams Onderwijs*)'.

### *Brazil*

Brazil has a National School Census that collects individualized data on schools, teachers, students, classrooms.

### *Canada*

Admission to upper secondary programmes differ between province and territory, school board, and individual schools. In some cases, school performance (based on school grades and/or entrance exams) may be considered for admission to certain schools and/or programmes. There are no national external examinations which impact admission to upper secondary programmes. Students must fulfil a specific number of course credits to obtain an upper secondary qualification. However, specific requirements vary from one province/territory to another and may include provincial or territorial examinations in certain subjects.

### *Chile*

The census by school (via web application) for ISCED 0-3 levels, is a common student register that provides information of the enrolment of students by level of education, and their status of graduation by the end of school year.

### *Colombia*

To obtain a diploma, they must pass the grade, with the corresponding obtainment of competencies and achievements for each subject. This applies equally for general and vocational education. The national exam, *Saber 11*, is not a requirement for obtaining a diploma, but it is a necessary requirement for accessing higher education programmes. This national exam applies for the whole country, there are no regional differences.

### *Costa Rica*

One source used is the administrative records of the Department of Statistical Analysis of the Ministry of Public Education (MEP) of Costa Rica. There are no individual level data in this department, therefore, the enrolment of



non-repeaters students of 15 to 16-year-old at the beginning of ISCED 3 were used as new entrants to ISCED 3. In the case of general programmes, the number of 17-year-old graduates were used. In the case of vocational, 18-year-old graduates were used. The age was used to estimate graduates for the first time.

### *Denmark*

The student register contains information on all formal education programmes that has been initiated in Denmark. The register contains information on when the student started the individual education program, when the programme it is completed or when the student has dropped out of the education program.

### *Estonia*

Theoretical duration of upper secondary general education is regulated by Basic Schools and Upper Secondary Schools Act. Theoretical duration of upper secondary vocational education is regulated by Vocational Education Standard.

Estonian Education Information Register is a person-based register where all events (entrance, drop out, change of school /orientation of curriculum, graduation) related to students are registered (we have dates of those events). The educational path of every student in register can be followed since school year 2005/2006.

### *France*

Follow-up data are collected by a mix of sample surveys and registers data.

### *Finland*

In school year 2022-23 voluntary additional basic education (voluntary additional 10th grade of comprehensive school education) has been abolished and merged with preparatory education for programmes leading to an upper secondary qualification.

### *Germany*

Completion rate for 2020 shows a slight increase in comparison to 2019 (94,5 vs 93,4). This is mainly to a stronger decrease (-35.343) in the number of students in the final grade than in the number of graduates (-30.072).

### *Greece*

Only 2-year vocational programmes and 3-year general programmes are included in the upper secondary completion rate indicator.

### *Israel*

The sources used for the data collection are administrative files from the Ministry of Education and the Ministry of Economy.

The length of schooling period in Israel, from 1st to 12th grade, is 12 years. As a rule, the length period of ISCED 3 level is 3 years and it ends with completing the 12th grade. Afterwards most of the students are recruited to the army.

### *Italy*

The source of data is a register system that contains demographic data and the school career of students.

*Korea*

This data is based on entrants who entered in March 2018 and graduates who graduated in February 2021.

*Latvia*

Schools offered distance learning opportunities, which may have been a contributing factor to programme completion. The restrictive and distancing measures in the society allowed students to focus on their studies and completion of study programmes, especially in a situation when theoretical and general subjects were taught remotely, and only practical training took place in person (observing distancing and epidemiological safety measures).

Duration of study programmes is determined by regulation: the General Education Law, the Vocational Education Law, and the Cabinet of Ministers' Regulation on Classification of Education System of Latvia.

*Luxembourg*

The data come from the administrative databases used for the school-management software. All pupils enrolled in the public-school system have a record in the database. The available information refers to the enrolment of the pupil, while details on immigration background and parental education status are not available. No information is available on pupils who transfer from the public system to an independent private school or to a school in one of the neighbouring countries, as their records are not in the administrative data. They will then appear as not enrolled and without degree in this reporting table even if they have completed their degree abroad or in a private school.

*New Zealand*

Data on school and post-enrolments and completion are collected by educational institutions, and this data is collated nationally into central government databases. Every student in New Zealand has a unique National Student number (NSN) which allows the educational pathway of that student to be measured across any ISCED level they have enrolled in.

*Norway*

Because of the pandemic, both oral and written exams were cancelled in 2020 and 2021. Normally, more people fail the exams than the overall achievement marks, so when students during the pandemic have also failed less in the overall achievement marks and received higher grades, this has taken on a big impact on the proportion of students who pass the school year.

*Poland*

The education system including the theoretical duration of studies is governed by Acts of Parliament and Regulations adopted by the Minister of Education and Science who is in charge of school education and responsible for higher education).

The School Education Information System is a database administered by Ministry of Education and Science. Since 2019/2020 school year information in School Education Information System database is collected on individual level. Therefore it will be possible to monitor educational path of each student in the near future.

*Portugal*

Validated data received from schools and Higher Education Institutions (HEI), on students enrolled in upper secondary and tertiary education, respectively.

### *Slovenia*

Data used in the calculation are from the student register system that contains various data on the enrolment. We have linked these data to central population register for socio-economic variables.

### *Spain*

A student register system for VET and University Statistics and student registers for ISCED 3 general programmes have been used.

### *Switzerland*

Due to the change in the duration of education from 3 to 4 years in the Baccalaureate schools in the canton of Basel-Stadt, it is not possible to distinguish between learners completing a Baccalaureate under the old or the new system. For this reason, the learners who complete a *gymnasiale Matura* in this canton were not included.

There are regressions models to estimate the effect of pandemic on the completion rate. Complete results are here: <https://www.bfs.admin.ch/bfs/de/home/statistiken/bildung-wissenschaft/uebertritte-verlaeuft-bildungsbereich/sekundarstufe-II.assetdetail.18224246.html>

Data are the result of linkage between educational registers. They are yearly updated.

### *Sweden*

The register regarding upper secondary education contains several database tables which can be linked together via the personal identification number. These database tables contain for example students enrolled, new entrants, programme, grades and graduates. A new version is created every new academic year. The cohort data were collected from the students who entered Upper Secondary Education (USE) ( in 2017/18 and collected information about graduation. The cohort was then linked with UOE-ENRL data from 2020/21 to see if and what level they were enrolled in one year after graduating from USE.

The implementation of a new reform on upper secondary schools in 2011 negatively affected the completions rates from 2014.

### *United States*

In prior submissions of this survey, the United States. provided data from the High School Longitudinal Study (HSL:09), which was a longitudinal collection. Without new rounds of this survey available and to prioritize periodicity of data, the United States. has transitioned to using Adjusted Cohort Graduation Rate (ACGR) data. ACGR provides very limited information for "TRUE\_COHORT\_SOCIAL" tab. ACGR data is used to populate the "TRUE\_COHORT\_TRENDS" tab, but these data are not comparable to previous data submitted using the longitudinal survey.

Data only covers public schools. Data is only available for theoretical duration.

In the international classification (ISCED), upper secondary education refers only to grades 10-12 in the United States. However, since most high schools in the U.S. include grade 9, ACGR is calculated beginning with a 9th grade cohort.

## Indicator B4. Who enters tertiary education?

### Source

Data are based on the UOE data collection on education systems administered annually by UNESCO, the OECD and Eurostat for all OECD and partner countries. Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Information on the sources and instruments used by countries to collect data on entrants is given in EAG2023\_Annex3\_ChapterB\_ENTR (Table 2.2), which also indicates missing data points and explanatory notes on the raw data collected.

### Notes on specific countries

#### *Australia*

For Australia, international students are excluded from the numerator but not the denominator when calculating entry rates and this has the effect of understating the adjusted rate. It should also be noted that many international students may reside in Australia for some time after the completion of their studies and that this should be kept in mind when interpreting these data. In addition, COVID 19 could be one of the reasons for the increase in the number of ISCED 6 entrants but could also explain the decrease in ISCED 7 entrants, mobile ISCED 6 and 7 entrants and F043 entrants.

#### *Belgium*

Data on the German-speaking Community are not integrated in the data for Belgium in the UOE data collection. Short-cycle tertiary programmes exist in the French Community of Belgium but data are not reported. This small number of entrants, around one hundred in 2020, are instead reported in ISCED 6 data. From the academic year 2019-2020, associate degree programmes of higher vocational education are organised by university colleges (ISCED 5) in the Flemish Community (BE). In this way, they form the third gateway to higher education, in addition to professional and academic bachelor's programmes. Previously, these courses could be followed at the centres for adult education.

#### *Chile*

Since 2018, the number of mobile students has been calculated by determining the country of previous studies, as opposed to the country of previous residence, which was the criteria that was used up until 2017. The number of new entrants decreased in 2020 due to several factors, especially in institutions that provide technical education. There have been delays in the enrolment process of students in tertiary education institutions, because of the protests that occurred in October 2019. In addition, there have been several postponements of the University Selection Test for the admission of students to tertiary education institutions. The COVID-19 pandemic has also contributed to the decrease in the number of new entrants.

#### *Colombia*

Data on entrants corresponds to calculations based on the date and country of birth reported by higher education institutions in the National Higher Education Information System. As of 2019, the ISCED 2013 classification for education programmes has been applied to data collected in Colombia, which resulted in the reclassification of some academic programmes.

### Costa Rica

2020 entry to tertiary education data are reported as missing. Costa Rica is currently working to improve the collection and dissemination of tertiary education data.

### Denmark

In 2018, Statistics Denmark improved reporting systems as to have better coverage on PIN-number for students entering ISCED 5. This influences the number of international students entering ISCED 5 as there is now better information on students' previous education, nationality, and immigration (especially for one specific grey area group, which previously had an invalid PIN-number). Therefore, the number of international students entering ISCED 5 decreased compared to previous years. From 2018, there is a change in the methodology : international students entering a master degree in Denmark are considering graduating with a bachelor degree.

### Estonia

The proportion of secondary school graduates who continue their studies in Estonia has been steadily decreasing in recent years. This is due to several reasons, including the facts that youth study abroad, or are more likely to join the labour market, or prefer completing their military service before continuing their studies. Moreover, the fall in the number of entrants to ISCED 6 level is also related to the higher education reform implemented in 2013. Since this reform, public and government-dependent private higher education institutions mainly provide free (i.e: based on state budget) education and cannot afford to accept as many students as before. As a result, students need not only to pass final examinations but also entrance examinations to be admitted to higher education institutions. Methodology has been changed to avoid double counting new entrants between years. Therefore the 2016 data are not comparable with data available for year 2015. Data on new entrants before 2016 are overestimated.

### France

In the school year 2017/18, a new entrant was defined as a student who was not enrolled at a same ISCED in the past. This method cannot be generalized to all the students but only for individual data. It is the reason why the new entrants in some ISCED levels cannot be provided (ISCED 4, ISCED 7 long first-degree...). This new methodology has an impact on the number of new entrants in ISCED 8 calculated before (the new entrants were estimated according to the programme followed the previous year). The decline of new entrants in ISCED 8 compared to previous years is due to this new approach. Break in time series for data by fields of education from the year 2019/20 due to change in methodology for classification. In 2019, there was a reform in upper secondary in professional programmes (*'Famille de métier'*).

### Germany

Beginning with reference year 2020 (academic year 2019/2020) detailed results from the new statistic on students in doctoral studies could be provided and fully replaced the somehow incomplete figures from the previous sample surveys provided until 2019. The absolute values for 2020 are 10 % lower than estimated data based on the previous sample survey.

Break in time series in 2019 due to the inclusion of Advanced vocational training (*Aufstiegsfortbildung*) in the UOE data collection for the first time, which led to increases in ISCED 5 and 6.

### Greece

Since 2019, most of ISCED 65 programmes have been integrated into ISCED 64, and ISCED 75 programmes have been abolished or integrated into ISCED 74 programmes.

*Italy*

Break in time series: 2018 data report new entrants both international and by fields by using the snapshot-1-month method whereas in the past the method used was snapshot-10-months.

*Luxembourg*

A significant proportion of the youth cohort study in neighbouring countries at the ISCED levels 5, 6, 7 and 8. There has been a change in enrolment procedures requiring students to pay tuition fees immediately upon enrolment, which may have contributed to decreases in the number of entrants at ISCED 4. Previously, all students had two months before payment and were considered to be enrolled automatically even without payment.

*Netherlands*

Entrance data only include publicly financed institutions, referred to as “public institutions” in the Dutch national statistical and educational environment.

In the Netherlands, some national students are considered first-time entrants to tertiary education at ISCED level 7 (master’s or equivalent) even though long first-degree programmes are inexistent in the country. Therefore, the number of first-time entrants to tertiary education at ISCED 7 is overestimated because it includes students who have probably gone abroad to study at bachelor’s level and come back to the Netherlands to pursue a master’s degree. In that case, they are not truly first-time entrants to tertiary education, but to the Dutch tertiary education system.

*Norway*

Education through three years in general upper secondary programmes or via a general supplementary programme in year 3 building on two years in vocational education, are the main routes granting access to bachelor’s or equivalent (ISCED 6 and ISCED 746). These are categorized as general programme in the UOE data collection. There are nevertheless a few vocational upper secondary programmes with specific tracks qualifying for access to bachelor’s, i.e. Media and Communication (for those starting upper secondary pre-autumn 2016) and Agriculture, fishing and forestry. These are included in the UOE data collection as vocational together with other students from purely vocational programmes.

*New Zealand*

In 2020 and 2021, the COVID-19 mitigation strategy of closing the border, prevented significant numbers of mobile students attending courses in New Zealand, affecting the number of entrants in ISCED 5 to 8. Poland

Data on new entrants to tertiary education and doctoral programmes are estimated on the basis of the POL-on system (administered by the Ministry of Education and Science). Currently this is the only source of information on tertiary education in Poland.

In Poland, the Higher Education Act allows for newly admitted students in their first year of study not to be assigned to a particular programme. Increasing number of students in “Field unknown” (Field F99) can be explained by the growing popularity of “individual inter-field studies”.

New long first-degree programmes offered by higher education institutions for prospective teachers attracted many entrants to ISCED 7 long first degrees, contributing to a decrease in entrants to bachelor’s programmes in the field of education (F01) in 2020. From 2019/20, doctoral training is provided only in doctoral schools for newly enrolled students, contributing to a decrease in new entrants at ISCED 8.

### *Portugal*

In 2014/15, a new programme (higher education professional courses) was created at ISCED 5.

### *Saudi Arabia*

Higher education in Saudi Arabia is experiencing massive expansion, which leads to more educational institutions, the developments of new programmes at different tertiary levels, and accompanied with higher demand on education, produced pronounced increments in enrolment, annually, and should explain the "up normal" increase in entry rates.

### *Spain*

The number of students entering tertiary education for the first-time in Spain is higher than that of new entrants to long first degrees. Thus, the number of first-time entrants to tertiary education at ISCED 7 is overestimated due to the fact that some students are counted as "first-time entrants" tertiary education even though they might already have acquired a degree in another country. They are "first-time entrants" to the Spanish tertiary education system, but probably not to tertiary education.

In ISCED 45, the number of new entrants increased sharply between 2020 and 2021. It could be explained by the fact that these programmes are taught through calls with public funding to public and private institutions. As the 2020 call (associated with the 2019-2020 school year) was developed partially due to the problems of providing face-to-face teaching, the programmes developed in 2021 correspond to part of the 2020 and 2021 calls.

### *Slovenia*

Following implementation of ISCED-F-2013 into the administrative data sources, medical doctoral studies have been reclassified and there is a break in the series from 2018 at ISCED 8 for agriculture, forestry, fisheries and veterinary (Field F08) and health and welfare (Field F09).

### *Switzerland*

The count of new entrants is possible only for entrants at the universities (the ten state universities, the two federal technical colleges and other university-like institutions) and universities of applied sciences. For other levels the values were estimated. Mobile new entrants for ISCED 5 are missing, but their numbers are very limited.

### *United Kingdom*

At ISCED 5, programmes taken in university settings are classed as academic and programmes taken in Further Education settings (e.g. FE colleges) are classed as professional. ISCED 5 professional programmes also include a small number of bachelor's professional programmes.

2019 figures include alternative providers (higher education providers who do not receive recurrent public funding), which were not included in previous years. This currently leads to a structural break (increase) in ISCED 5-8 data.

A new subject coding system - the Higher Education Classification of Subjects (HECoS) - was implemented in 2019/20, therefore field of study data before 2019/20 is not directly comparable with data from 2019/20 onwards. For further information please see [The Higher Education Classification of Subjects \(HECoS\)](#).

*United States*

US data for new entrants by age are calculated by applying totals by ISCED level from universe data to age distributions by ISCED level which are drawn from a nationally representative sample of households in the United States. These age distributions fluctuate from year to year, resulting in estimates at some ages increasing and at other ages decreasing. These fluctuations become particularly notable for population bands on the fringe of an ISCED level which have relatively few people entering. The UOE definition of “new entrant to a level of education” specifies that students should be counted as new entrants if they enter for the first time any programme in each level of education, irrespective of whether the student enters the programme at the beginning or at an advanced stage of the programme. In the United States, students who transfer into an ISCED 6 programme from an ISCED 5 programme often enter ISCED 6 at a class level beyond year one and the United States’ data source used for reporting ISCED level 6 entrants does not identify these students as new entrants. Because the United States data do not capture new entrants to ISCED level 6 as defined by the UOE, estimates for first-time entrants to ISCED level 6 are reported as missing. Field of study data for entrants are not very relevant for the United States and it is difficult to accurately capture the field of study for entrants. With the structure of the U.S. system for ISCED 4/5/6, it is not unusual for a student to enter a programme without declaring a major, or to declare one and then change it several times. The United States does not submit field of study data for entrants.



## Indicator B5. Who graduate from tertiary education?

### Source

Data are based on the UOE data collection on education systems administered annually by UNESCO, the OECD and Eurostat for all OECD and partner countries. Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Information on the sources and instruments used by countries to collect data on entrants is given in EAG2023\_Annex3\_ChapterB\_GRAD (Table 2.3), which also indicates missing data points and explanatory notes on the raw data collected.

Data in Box B5.1 are based on the 2021 ad-hoc survey on tertiary completion rates administered triennially by the OECD for OECD and partner countries. For further information please see [Annex 3 of EAG 2022](#).

### Notes on specific countries

#### *Australia*

There has been an increase in the number of vocational graduates for the 2019 collection, due to changes in the identification methodology of students. The increase continued in the 2020 data collection.

#### *Belgium*

Data for the German-speaking Community are not integrated in the Belgian data.

#### *Belgium (Flemish Community)*

Data are not available for the Protestant Faculty.

#### *Brazil*

The COVID-19 pandemic may explain some of the sharply decrease in the number of graduates at ISCED 4, ISCED 6 and ISCED 7.

#### *Canada*

In 2020, the province of Ontario changed its methodology for reporting data at ISCED 5. Data are not comparable with previous years.

Labour shortages due to the COVID-19 pandemic have negatively affected the graduation rates at the upper secondary level.

#### *Chile*

There was an increase in the number of graduates, as the graduations took place in 2021 rather than 2020, because they had been postponed because of COVID 19.

#### *China*

All graduates are reported as first-time graduates.

*Colombia*

The higher education information system in Colombia is currently not able to differentiate first-time graduates from other graduates. The number of graduates from tertiary education increased in 2021 because of the pandemic. During 2019, many people were not able or decided not to graduate, given the lockdown circumstances, which made graduation rates fall. In 2021, graduation is returning to the 2019 (pre-COVID) tendencies, which implies that, in comparison to 2020, the numbers increase.

*Costa Rica*

Costa Rica is currently working to improve the collection and dissemination of tertiary education data. Caution is advised when using graduation data. After the COVID 19 pandemic, a lot of students decided to learn a specialty because of the advantages of virtual learning. It can explain this increase in the field F03.

*Czech Republic*

Due to the COVID-19 pandemic, some of the 2020 graduation data had to be estimated.

*France*

In EAG 2021, due to new legislation in France, there is a reclassification of students in ISCED 74 to ISCED 76, leading to a break in time series.

*Germany*

In UOE 2020 for reference year 2018/2019 for the first time. The number of mobile students in professional programmes is negligible and reported with the value zero.

There is an increase in the number of females graduates from ISCED 6 programmes from 2020 to 2021. Many Graduations had been shifted or delayed due to Corona crisis.

*Greece*

There is not a shift from public institutions to private institutions in Greece. The internship in enterprises is mandatory for the student's graduation in ISCED4. During the school year 2020-21, it was postponed due to covid restrictions. Consequently, public institution students could not graduate that year.

Moreover, the number of graduates in ISCED7 increased in 2021. This increase resulted from the access given to students to participate and be examined to their courses online as part of the measures dealing with the coronavirus pandemic.

*Hungary*

2020 graduate data are highly affected by Hungary's COVID-19 mitigation strategies at ISCED 6 and ISCED 7.

*Ireland*

In 2021, the number of graduates at ISCED7 decreased due to the pandemic.

*Japan*

Data for the number of graduates by age in Japan in 2019 data are calculated by estimation from data on age at entrance, number of graduates by years in school, and other data. The graduation rate is the net graduation rate, which excludes those of unknown age from the calculation (see Methodology section for more information). Until

EAG 2020, graduation rate was calculated based on the gross graduation rate, as breakdown of graduates by age was not available. Therefore, data comparison with past editions is not possible.

### *Korea*

Data for first-time graduates from the ISCED level at ISCED 8 may be slightly overestimated as all graduates are reported as first-time graduates. The significant increase in the number of international graduates at tertiary education level is due to a national strategy of attracting more international students.

### *Luxembourg*

A significant proportion of the youth cohort studies in neighbouring countries at the ISCED 5, 6, 7 and 8 levels. This leads to a downward bias for tertiary graduation rates, which do not take into account Luxembourg students pursuing tertiary studies abroad.

### *Netherlands*

Graduate data only include publicly financed institutions, referred to as “public institutions” by the Dutch national statistical and educational environment.

### *Poland*

Institutional changes concerning doctoral studies may affect data on the distribution of mobile graduates by field of education at ISCED 8 level during the transition period. From the 2019/2020 academic year, doctoral studies are being phased out and, for newly enrolled students, doctoral training is only provided at doctoral schools.

### *Saudi Arabia*

All graduates are reported as first-time graduates.

### *South Africa*

All graduates are reported as first-time graduates.

### *Sweden*

Many mobile students are enrolled in master’s programmes. As the master’s degree is their first degree in Sweden it partially explains why the graduation age is quite high.

### *Switzerland*

In 2021, the number of graduates in ISCED 75 decreased sharply due to the pandemic. Inversely, it increased in ISCED 65 because of new trainings.

### *Türkiye*

Open education is excluded.

### *United Kingdom*

2019 figures include alternative providers (higher education providers who do not receive recurrent public funding), which were not included in previous years. This currently leads to a structural break (increase) in ISCED 5-8 data. A new subject coding system - the Higher Education Classification of Subjects (HECoS) - was

implemented in 2019/20, therefore field of study data before 2019/20 is not directly comparable with data from 2019/20 onwards. For further information please see [The Higher Education Classification of Subjects \(HECoS\)](#).

### *United States*

Due to methodological changes, caution should be used when comparing classification of tertiary graduates by fields of study in 2020 or 2021 to prior years. Regarding the definition of first-time graduates, at ISCED 5 and 6, unduplicated counts are used while ISCED 7 and 8 are not.

## Indicator B6. What is the profile of internationally mobile students?

### Methodology

The specific criteria used to define international students in countries is listed in EAG2023\_Annex3\_ChapterB\_ENRL (Table 2.1).

Table X3.B6.a. lists the neighbouring countries used in calculations for the percentage of international or foreign students coming from neighbouring countries in Table B6.1.

**Table X3.B6.a. Lists of neighbouring countries**

Country	Neighbouring countries
Australia	Indonesia (M), New Zealand (M), Papua New Guinea (M), Solomon Islands (M), Timor-Leste (M)
Austria	Czech Republic, Germany, Hungary, Italy, Liechtenstein, Slovak Republic, Slovenia, Switzerland
Belgium	France, Germany, Luxembourg, Netherlands, United Kingdom (M)
Canada	United States
Chile	Argentina, Bolivia, Peru
Colombia	Brazil, Costa Rica (M), Dominican Republic (M), Ecuador, Haiti (M), Jamaica (M), Nicaragua (M), Panama, Peru and Venezuela
Costa Rica	Colombia (M), Ecuador (M), Nicaragua and Panama
Czech Republic	Austria, Germany, Poland, Slovak Republic
Denmark	Iceland (M), Germany, Netherlands (M), Norway (M), Poland (M), Sweden, United Kingdom (M)
Estonia	Finland, Latvia, Russian Federation, Sweden (M)
Finland	Estonia (M), Norway, Russian Federation, Sweden
France	Andorra, Antigua and Barbuda (M), Barbados (M), Belgium, Brazil, Comoros (M), Dominica (M), Germany, Italy, Luxembourg, Madagascar (M), Mauritius (M), Mozambique (M), Monaco, Saint Lucia (M), Spain, Switzerland, Suriname, United Kingdom (M), Venezuela (M), Montserrat (M), Netherlands Antilles (M)
Germany	Austria, Belgium, Czech Republic, Denmark, France, Luxembourg, Netherlands, Poland, Sweden (M), Switzerland, United Kingdom (M)
Greece	Albania, Bulgaria, Cyprus <sup>1,2</sup> (M), Egypt (M), Italy (M), Libya (M), North Macedonia, Türkiye
Hungary	Austria, Croatia, Romania, Serbia, Slovak Republic, Slovenia, Ukraine
Iceland	Denmark (M), Norway (M)
Ireland	United Kingdom
Israel	Cyprus <sup>1</sup> (M), Egypt, Jordan, Lebanon, Syria, Palestinian Autonomous Territories
Italy	Albania (M), Algeria (M), Austria, Croatia (M), France, Greece (M), Libya (M), Malta (M), Montenegro (M), San Marino, Slovenia, Spain (M), Switzerland, Tunisia (M)
Japan	China (M), North Korea (M), South Korea (M), Philippines (M), Russian Federation (M)
Korea	China (M), Japan (M), North Korea
Latvia	Belarus, Estonia, Lithuania, Russian Federation, Sweden (M)
Lithuania	Belarus, Latvia, Russian Federation, Sweden (M)
Luxembourg	Belgium, France, Germany
Netherlands	Belgium, Denmark (M), Germany, United Kingdom (M)
New Zealand	Australia (M), Fiji (M), Tonga (M), Kiribati (M), Samoa (M)
Norway	Denmark (M), Finland, Iceland (M), Russia, Sweden, United Kingdom (M)
Poland	Belarus, Czech Republic, Denmark (M), Germany, Lithuania, Russia, Slovak Republic, Sweden (M), Ukraine
Portugal	Morocco (M), Spain
Slovak Republic	Austria, Czech Republic, Hungary, Poland, Ukraine
Slovenia	Austria, Croatia, Italy, Hungary
Spain	Algeria (M), Andorra, France, Italy (M), Morocco, Portugal, Gibraltar
Sweden	Denmark (M), Estonia (M), Finland, Germany (M), Latvia (M), Lithuania (M), Norway, Poland (M), Russian Federation (M)
Switzerland	Austria, France, Germany, Italy, Liechtenstein
Türkiye	Armenia, Azerbaijan, Bulgaria, Cyprus <sup>1,2</sup> (M), Egypt (M), Georgia, Greece, Iran, Iraq, Romania (M), Russian Federation (M), Syria, Ukraine (M)

Country	Neighbouring countries
United Kingdom	Belgium (M), Denmark (M), France (M), Germany (M), Ireland, Netherlands (M), Norway (M)
United States	Bahamas (M), Canada, Cuba (M), Kiribati (M), Mexico, Russian Federation (M)
Argentina	Bolivia, Brazil, Chile, Paraguay, Uruguay, United Kingdom (M)
Brazil	Argentina, Bolivia, Colombia, France, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela
Bulgaria	Greece, North Macedonia, Romania, Serbia, Türkiye, Russian Federation (M) and Ukraine (M)
China	Afghanistan, Bhutan, Brunei (M), Democratic People's Republic of Korea, India, Indonesia (M), Kazakhstan, Korea (M), Kyrgyzstan, Laos, Mongolia, Malaysia (M), Myanmar, Nepal, Pakistan, Philippines (M), Russian Federation, Tajikistan and Vietnam
Croatia	Bosnia and Herzegovina, Hungary, Italy (M), Montenegro, Serbia and Slovenia
India	Afghanistan, Bangladesh, Bhutan, China, Indonesia (M), Myanmar, Nepal, Pakistan, Sri Lanka and Thailand (M)
Indonesia	Australia (M), China (M), Timor-Leste, India (M), Malaysia, Palau (M), Papua New Guinea, Philippines (M), Singapore (M), Thailand (M) and Vietnam (M)
Peru	Bolivia, Brazil, Chile, Colombia and Ecuador
Romania	Bulgaria, Hungary, Moldova, Russian Federation (M), Serbia and Ukraine
Saudi Arabia	Bahrain (M), Egypt (M), Eritrea (M), Islamic Republic of Iran (M), Iraq, Jordan, Kuwait, Oman, Qatar, Sudan (M), United Arab Emirates and Yemen
South Africa	Botswana, Lesotho, Mozambique, Namibia, Swaziland, Zimbabwe

Note: (M) Maritime border

## Source

Data are based on the UOE data collection on education systems administered annually by UNESCO, the OECD and Eurostat for all OECD and partner countries.

The UNESCO Institute of Statistics (UIS) provided data 1) for Argentina, China, India, Indonesia, Saudi Arabia and South Africa; 2) for all countries beyond the OECD and partner countries; and 3) for OECD countries for the period not covered by OECD statistics (2005 and 2010-20).

Information on the sources and instruments used by countries to collect data on enrolments is given in EAG2023\_Annex3\_ChapterB\_ENRL (Table 2.1), which also indicates missing data points and explanatory notes on the raw data collected.

## Notes on specific countries

### Belgium

Data on international tertiary students do not include students of social promotion education in the French Community, and students of the Open University, the Institute for Tropical Diseases and the Evangelic Theological Faculty in the Flemish Community. Therefore, the coverage of international and foreign students is different, and the data cannot be compared. Data for ISCED 5 are based on nationality and only include data from the Flemish Community (ISCED 5 does not exist in the French Community).

### Canada

Since 2018/19, there have been improvements in coverage to ISCED 5. Caution should be used when making comparisons of mobile students by country to previous years.

### Costa Rica

Data on foreign students are underestimated as they cover only public universities, where about half of all tertiary students are enrolled.

### *France*

As of academic year 2017/18, Erasmus+ (credit mobile) students are excluded from the number of international students. In addition, there is a break in time series in the classification by field of education due to change in methodology as of school year 2017/18.

### *Germany*

The number of mobile students in professional programmes in ISCED 554 and 655 is negligible and reported with the value zero. Prior to academic year 2017/18, homecoming students were not included in the number of international students at all tertiary levels.

Beginning with reference year 2020 (academic year 2019/2020) detailed results from the new statistic on students in doctoral studies could be provided and fully replaced the somehow incomplete figures from the previous sample surveys provided until 2019. Different reference group for mobile students based on citizenship instead of country of prior education.

### *Netherlands*

Data on international and foreign students do not include those enrolled at the Open University.

### *New Zealand*

In 2020 and 2021, preventative measures against COVID-19 included border closures, which contributed to significant drops in the number of mobile students. Mobile student numbers massively declined in 2021, as the government shut its borders as a COVID-19 mitigation.

### *Norway*

A change in the reporting methodology for international students to track students without a valid ID resulted in an increase in the number of international students as of the academic year 2017/18.

### *Türkiye*

In 2021, the mobile graduates from Syrian Arab Republic increased sharply in ISCED 5.

### *Switzerland*

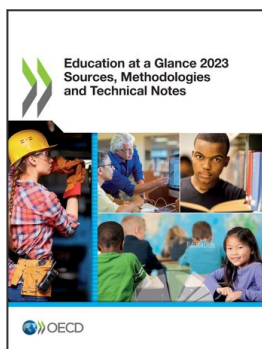
Data on mobile students by field of study and by country of origin cover only students in universities and universities of applied sciences at ISCED levels 6 and 7.

### *United Kingdom*

Data on mobile students by field of study at ISCED 5 cover only those in academic programmes.

## References

- OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, [1]  
<https://doi.org/10.1787/9789264304444-en>.



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