OECD

EDUCATION INDICATORS IN FOCUS

37

2015 (December)

education **data** education **evidence** education **policy** education **analysis** education **statistics**

Who are the bachelor's and master's graduates?

- **Graduation rates for bachelor's and master's degrees have dramatically increased over the past two decades, with 6 million bachelor's degrees and 3 million master's degrees awarded in OECD countries in 2013.**
- **Although women represent over half of the graduates at the bachelor's and master's level, they are still strikingly under-represented in the fields of sciences and engineering.**
- **The proportion of international students rises with every level of tertiary education: while 7% of bachelor's graduates were international students in 2013, the figure increases to 18% among those awarded a master's degree.**

Over the past two decades, tertiary education in OECD countries has dramatically expanded. In 2014, 16% of the adult population (25-64 year-olds) across OECD countries had a bachelor's degree as their highest level of attainment and another 11% had a master's degree. However, tertiary education has been constantly changing as well as expanding. Institutions now offer more choices of programmes and degrees, and host a more diverse student body.

How are bachelor's and master's degrees organised and compared across countries?

In 1999, the Bologna Declaration officially launched a process to ensure greater coherence between tertiary education systems in European countries. As part of this process, countries were encouraged to adopt a system of comparable degrees. This harmonisation was meant to foster the mobility of students between countries, and to ensure a degree of comparability in the standards and quality of higher education degrees. Today, all European countries have implemented the three-cycle degree structure, and the majority of them have a high percentage of their students in programmes corresponding to the Bologna system (European Commission/EACEA/Eurydice, 2015).

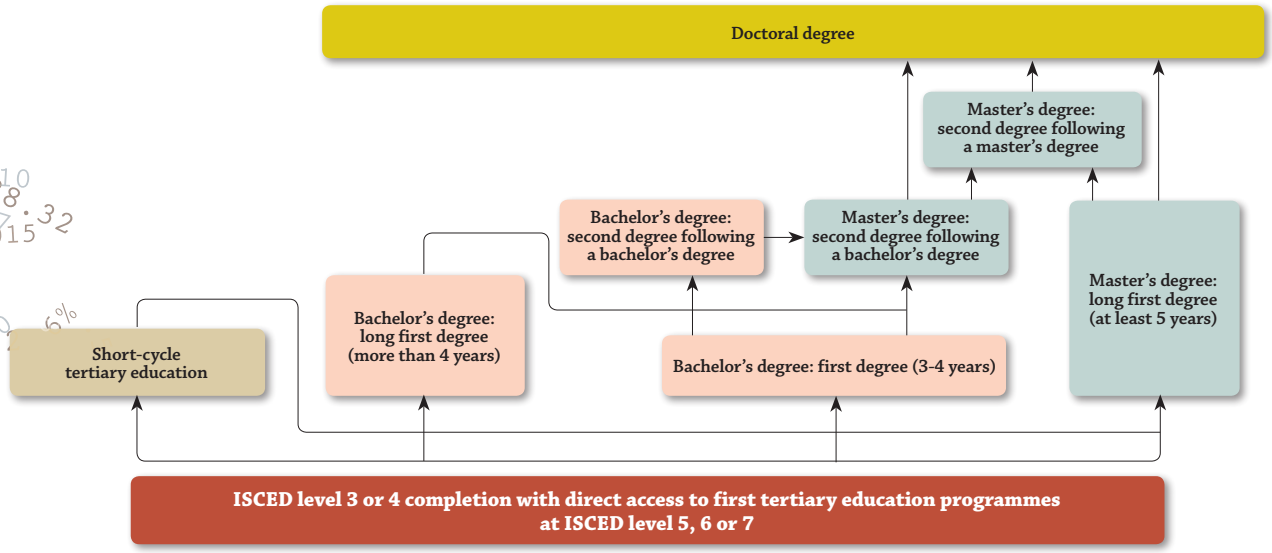
On an international scale, comparing tertiary education systems can be even more challenging. However, thanks to the new ISCED 2011 classification, it is now possible to distinguish between the various levels of tertiary education. The new classification comprises four levels, compared with two levels in ISCED-97. The first stage of tertiary education (level 5 in ISCED-97) is now divided into three levels: short-cycle tertiary education (level 5), bachelor's or equivalent level (level 6), and master's or equivalent level (level 7). Programmes previously classified as the second stage of tertiary education (level 6 in ISCED-97) are now level 8, doctoral or equivalent level (OECD, 2015b). Each country then maps their own education system to this common organisation of levels. Figure 1 shows the variety of programmes offered at bachelor's and master's levels in the different education systems.

Who are the bachelor's graduates?

Over 6 million students were awarded bachelor's degrees across OECD countries in 2013. Of those, an average of 82% graduated from a first degree programme at bachelor's level (3-4 years), 4% graduated from a long first degree programme at bachelor's level (more than 4 years), and 13% graduated from a second degree programme at bachelor's level following successful completion of another bachelor's programme.

The vast majority of those expected to graduate from a bachelor's degree – 84% – will do so before the age of 30. Based on current patterns of graduation, an average of 27% of today's young people across OECD countries are expected to graduate from a bachelor's or equivalent degree before turning 30. However, some education systems accommodate a wider range of ages among their students than others. In Chile, Finland, Hungary, Israel, New Zealand, Sweden and Switzerland, more than 20% of bachelor's graduates were awarded their degree after turning 30.

Figure 1. **Organization of tertiary programmes in ISCED 2011**

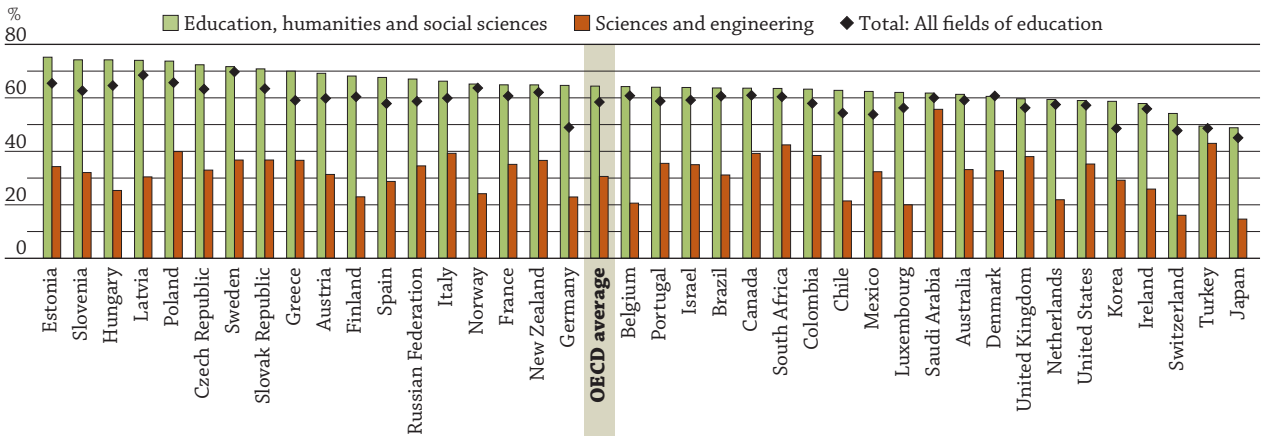


Source: UNESCO Institute for Statistics (2012), *International Standard Classification of Education ISCED 2011*, www.uis.unesco.org/Education/Documents/isced-2011-en.pdf.

The most popular field among bachelor's graduates is social sciences, business and law, which comprises about 35% of graduates for this level. In contrast, only 22% chose the fields of sciences or engineering, almost the same share as in 2005. However, some countries have witnessed a considerable increase in the share of graduates who studied sciences or engineering. Between 2005 and 2013, the share of bachelor's graduates in those fields increase by 10 percentage points in Hungary, and by at least 4 percentage points in Denmark, Poland and Portugal. Other countries have also been pushing for a higher number of graduates in sciences or engineering. For instance, the United States recently took measures to increase the number of graduates with tertiary science and engineering qualifications by 1 million by 2022. In 2013, less than 600 000 students graduated in those fields in the United States. Similarly, the European Union recently launched the Science with and for Society programme to make science more attractive, particularly to young people.

Women make up the majority of bachelor's graduates in all countries except Germany, Japan, Korea, Switzerland and Turkey. On average across OECD countries, 58% of graduates are women. The largest share of female graduates (69%) is found in Sweden.

Figure 2. **Share of female bachelor's graduates by field of study (2013)**



Countries are ranked in descending order of share of female bachelor's graduates in the fields of education, humanities and social sciences combined.
Source: OECD Education database, http://stats.oecd.org/.

The gender distribution across fields of study is not evenly balanced. Women are still a minority in the fields of science and engineering, with shares that remain virtually unchanged since 2005. At bachelor's level they represent only 31% of graduates in these fields. This result is aligned with the findings from the OECD Programme for International Student Assessment (PISA) that, although 15-year-old girls have higher expectations for their careers than boys, on average across OECD countries, less than 5% of girls that age are contemplating a career in engineering or computing (OECD, 2015c).

On the other hand, women continue to be overwhelmingly represented in the fields of education and health and welfare – comprising about 80% of graduates at bachelor's level. Women are also the majority in the fields of humanities and arts (about 66%), and social sciences, business and law (about 59%). Indeed, in the fields of education, humanities and social sciences combined, women represent over 60% of graduates in most OECD countries (Figure 2).

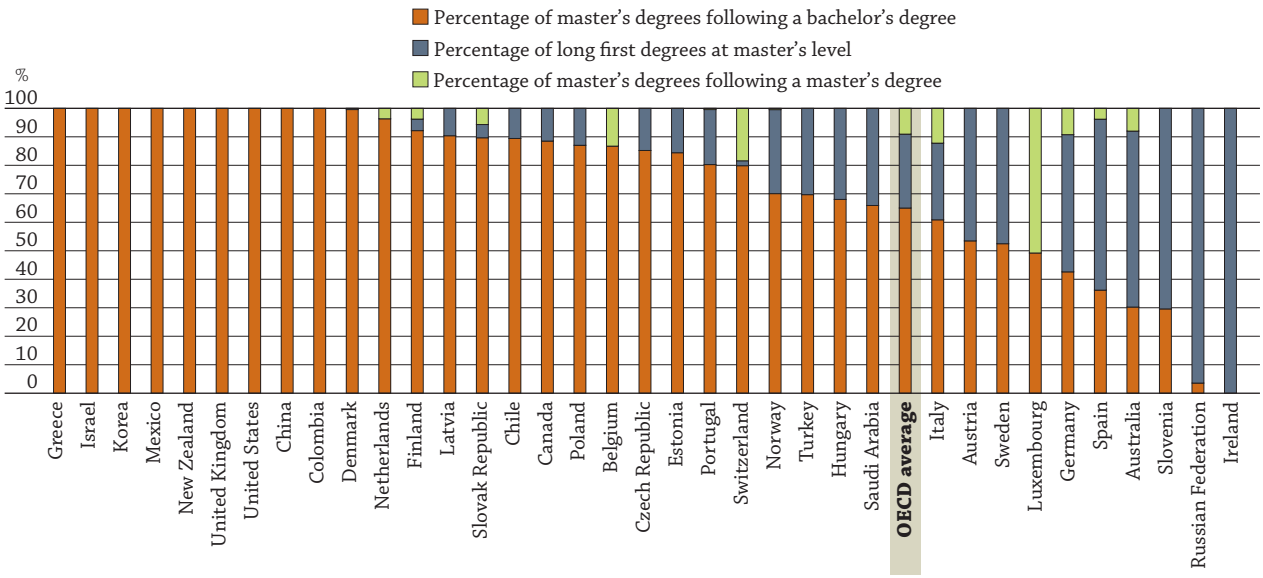
Who are the master's graduates?

In 2013, nearly 3 million master's degrees were awarded in OECD countries. On average, 65% of graduates had followed a second degree programme at master's level following successful completion of a bachelor's or equivalent programme, 26% had followed a long first degree programme at a master's level (at least five years) and 9% had followed a second degree programme at master's level following successful completion of another master's or equivalent programme.

At the master's level, the variety of programmes across countries is large: some countries only provide programmes following a bachelor's degree (China, Colombia, Denmark, Greece, Israel, Korea, Mexico, New Zealand, United Kingdom and the United States), while others almost exclusively provide long first degree programmes (Ireland and the Russian Federation) (Figure 3).

The diversity of programme lengths, education systems, career patterns and civil engagements (such as military and civil service) leads to a wide range of ages among the master students. On average among OECD countries, 18% of graduates are older than 35 when they earn their master's degree. This proportion is over 30% in Chile, Israel and New Zealand.

Figure 3. **Distribution of master's degrees, by type of programmes (2013)**



Countries are ranked in descending order of percentage of mater's degrees following a bachelor's degree.
Source: OECD Education database, http://stats.oecd.org/.

The choice among fields of study at the master's level reflects the choices at the bachelor's level: the most popular field is social sciences, business and law, at 37%, and about 22% choose sciences or engineering.

As is the case at the bachelor's level, women also make up the majority (57%) of master's graduates on average across the OECD. The highest share is found in Poland, where over 67% of graduates at this level are women. The gender distribution across fields of study at the master's level is also similar to that seen for bachelor's degrees: 62% of graduates in the fields of education, humanities and social sciences combined are women, compared with 35% in the fields of sciences and engineering.

The internationalisation of tertiary education has been more pronounced in advanced degrees, such as master's and doctoral programmes. Although only 7% of first-time bachelor's graduates were international students on average across OECD countries in 2013, 18% of master's graduates were – and the figure is even higher among doctoral graduates, at 27%. The larger share of international students in more advanced degrees could reflect the fact that capacity constraints in the countries of origin may be particularly severe at higher levels of education. The returns on studying abroad, and in more prestigious institutions, may be higher for master's or doctoral programmes than at lower levels of tertiary education. Or students in these programmes may be part of a particular subgroup of the population that is more likely to travel and live abroad, independent of their educational choices.

The bottom line: Tertiary education systems today offer a wide array of programmes, degrees and opportunities that attract a diverse student body. As a result, one of the greatest challenges facing tertiary education systems is learning how to deal with such diversity in terms of profile, age and country of origin. Another important challenge for higher education institutions and policy makers is the closing of the gender gap. Policies must aim at ensuring that both men and women have equal chances of enrolling and graduating from tertiary education, as well as of choosing and succeeding in different fields of education. Understanding current graduation patterns will be essential to tackling those challenges and helping policy makers explore ways to ease the transition from tertiary education into the labour market (OECD, 2015d).

For more information

European Commission/EACEA/Eurydice (2015), *The European Higher Education Area in 2015: Bologna Process Implementation Report*, Publications Office of the European Union, Luxembourg.

OECD (2015a), *Education at a Glance 2015: OECD Indicators*, OECD Publishing, Paris.

OECD (2015b), "What are the benefits of ISCED 2011 classification for indicators on education?", *Education Indicators in Focus*, No. 36, OECD Publishing, Paris.

OECD (2015c), *The ABC of Gender Equality in Education: Aptitude, Behaviour, Confidence*, PISA, OECD Publishing, Paris.

OECD (2015d), *Education Policy Outlook 2015: Making Reforms Happen*, OECD Publishing, Paris.

UNESCO Institute for Statistics (2012), *International Standard Classification of Education ISCED 2011*, UIS Publications, Montreal.

Contact

Corinne Heckmann (*Corinne.HECKMANN@oecd.org*) / Camila de Moraes (*Camila.DEMORAES@oecd.org*)

Visit

www.oecd.org/education/education-at-a-glance-19991487.htm
Adult Skills in Focus
Education Indicators in Focus (previous issues)
PISA in Focus
Teaching in Focus

Coming next month

What is the length of the school year in OECD countries?

Photo credit: © Ghislain & Marie David de Lossy/Cultura/Getty Images

This paper is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.