COUNTRY NOTE

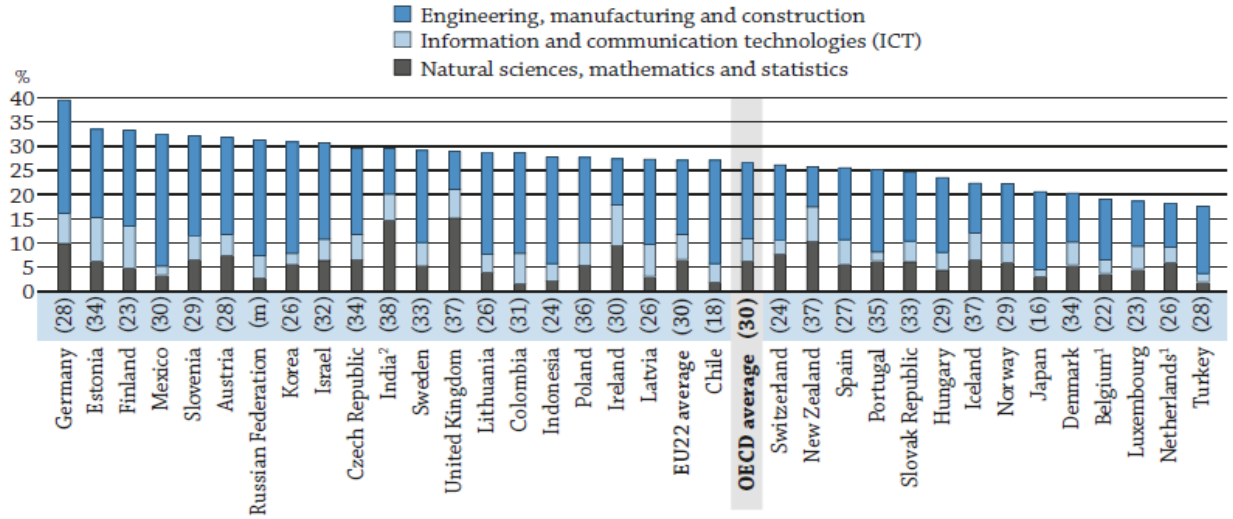
EDUCATION AT A GLANCE 2017

Education at a Glance: OECD Indicators is the authoritative source for information on the state of education around the world. It provides data on the structure, finances and performance of education systems in the 35 OECD countries and a number of partner countries.

Japan

- Households account for **more than 50% of the funding for early childhood education and tertiary education**, placing a significant financial burden on families.
- In spite of Japan's high reliance on technology and industry, science-related fields are not particularly in demand compared to business, administration and law. **Science-related fields of study are still strongly dominated by men**: while women represent half of all entrants to tertiary education, Japan has the lowest share of women entering science, technology, engineering and mathematics fields among OECD countries.
- **Teachers work longer hours than in other OECD countries**. While teachers' starting salaries in Japan are lower than the OECD average, they rise faster with experience than in other countries.
- Half of the working-age population are tertiary-educated and **the share has increased to 60% among the younger generation**, one of the highest attainment rates among OECD countries for this age group.
- **Japan has some of the highest tertiary tuition fees** among OECD countries with available data and they have been increasing in the past decade.

Figure 1. Distribution of new entrants to tertiary education, by STEM field of study and share of women in these fields (2015)



Note: The number in parentheses corresponds to the share of female new entrants in STEM (science, technology, engineering and mathematics) fields of study.
1. Excludes new entrants at doctoral level.
2. Year of reference 2014.
Countries are ranked in descending order of the share of new entrants to tertiary education in STEM fields.
Source: OECD/UIS/Eurostat (2017), Table C3.1a. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
StatLink http://dx.doi.org/10.1787/888933558306

Women are still very under-represented in science-related fields of study

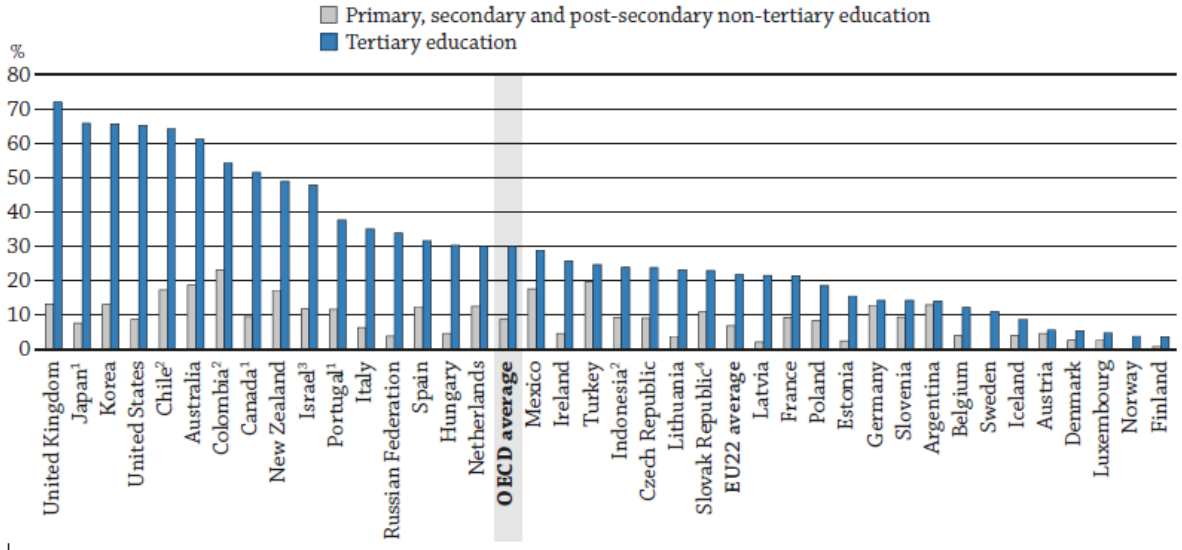
- The largest share of new entrants to tertiary education in Japan (20%) chose to study a business, administration or law degree, in line with general trends observed across OECD countries. In spite of Japan's heavy reliance on technology and industry, science-related field are not particularly in demand among tertiary students. Among the science, technology, engineering and mathematics (STEM) fields, only 3% of new entrants in Japan are pursuing degrees in natural sciences, mathematics and statistics, and 2% in information and communication technologies (ICT). These are below the OECD average, although the share choosing engineering, manufacturing and construction is roughly the same, at 16% (Figure 1).
- Engineering, manufacturing and construction are much more attractive in upper secondary vocational programmes than in tertiary education, although only 23% of upper secondary students choose to pursue vocational studies. Among graduates from upper secondary vocational programmes, 42% had studied these fields, compared to 34% on average across OECD countries.
- In 2006, the low representation of women in science-related fields led the Government of Japan to establish a target aimed at increasing the share of women researchers in science to 20% and in engineering to 15% (Government of Japan, 2006). As of 2015, although women made up 51% of new entrants to tertiary education, they represented 13% of new entrants to engineering, manufacturing and construction, the lowest share across all OECD countries. This is in stark contrast to other fields of study where women clearly dominate such as education (71%) or arts and humanities (66%). Cultural perceptions and gender stereotypes about the role of women in society may partly explain the lower interest among women in science-related fields of study.

Private households account for the largest share of funding to tertiary and early childhood education

- Public and private expenditure on primary to tertiary educational institutions remained relatively stable at around 4.4% of gross domestic product (GDP) between 2010 and 2014, below the OECD average of 5.2%. Public and private expenditure on primary, secondary and post-secondary non-tertiary educational institutions (2.9% of GDP) has been about 0.7 percentage points lower than the OECD average in recent years, but public and private expenditure on tertiary educational institutions (1.5% of GDP) has been similar to the OECD average.
- Similarly, the share of public spending on education in Japan is lower than on average across OECD countries. In 2014, education accounted for approximately 8% of total public spending in Japan, compared to an OECD average of 11%, and the share has been progressively decreasing since 2005.
- However, public and private expenditure per student has generally increased in recent years. In 2014, public and private expenditure on educational institutions from primary to tertiary levels was USD 11 654[1] per student in Japan, higher than the OECD average of USD 10 759.
- Like many other OECD countries, public funds contribute a large share of the expenditure on educational institutions from primary to upper-secondary non-tertiary level in Japan. However the picture changes considerably at tertiary level, where only 34% of the total expenditure on educational institutions comes from public sources (Figure 2). This is half the share of public funding at tertiary level observed across OECD countries on average (70%). Among private entities, households foot most of the bill, contributing 51% of expenditure on tertiary institutions, more than twice the OECD average of 22%.
- In spite of this strong reliance on households, the share of private funding on tertiary education has remained more or less stable since 2005.
- Japan has high enrolment rates in early childhood and care with 80% of 3-year-olds and 94% of 4-year-olds enrolled in 2015. However, in contrast to most other OECD countries, early childhood education in Japan is also strongly dominated by private institutions and dependent on private funding, with less than 30% of children enrolled in public institutions compared to 67% on average across OECD countries. With the public sector providing only 46% of total expenditure at this level – the lowest share among all OECD and partner countries – households are left to support a larger share of the bill. Japan also spends 25% less on early childhood education per student compared to the OECD average (USD 6 572 per year compared to the OECD average of USD 8 858).
- However, Japan has placed great emphasis on early childhood education in recent years through the Second Basic Plan for the Promotion of Education (2013-17) which aims to reduce the burden of family contributions and incrementally eliminate tuition fees in an effort to promote universal early childhood education and care for all children (OECD, 2015). Measures to help improve access to early childhood education should also encourage more women to enter the workforce to counterbalance the declining working-age population.

[1] Values reported in equivalent US dollars (USD) have been converted using purchasing power parities (PPPs).

Figure 2. Share of private expenditure on educational institutions (2013)



How to read this figure

The figure shows private spending on educational institutions as a percentage of total spending on educational institutions. This includes all money transferred to educational institutions from private sources, including public funding via subsidies to households, private fees for educational services or other private spending (e.g. on accommodation) which goes through the institution.

Note: Including subsidies attributable to payments to educational institutions received from public sources. Excluding international funds. Tuition fee payments that are made by students supported by student loans are presented as private expenditure and no adjustment has been made to account for the public cost of repayments not made.

1. Some levels of education are included with others. Refer to "x" code in Table B1.1 for details.
2. Year of reference 2015.
3. Private expenditure on government-dependent private institutions is included under public institutions.
4. Expenditure on public institutions for bachelor's, master's and doctoral degrees.

Countries are ranked in descending order of the share of private expenditure on educational institutions for tertiary education.

Source: OECD/UIS/Eurostat (2017), Table B3.1b. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).

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Teachers work longer hours in Japan than in other OECD countries

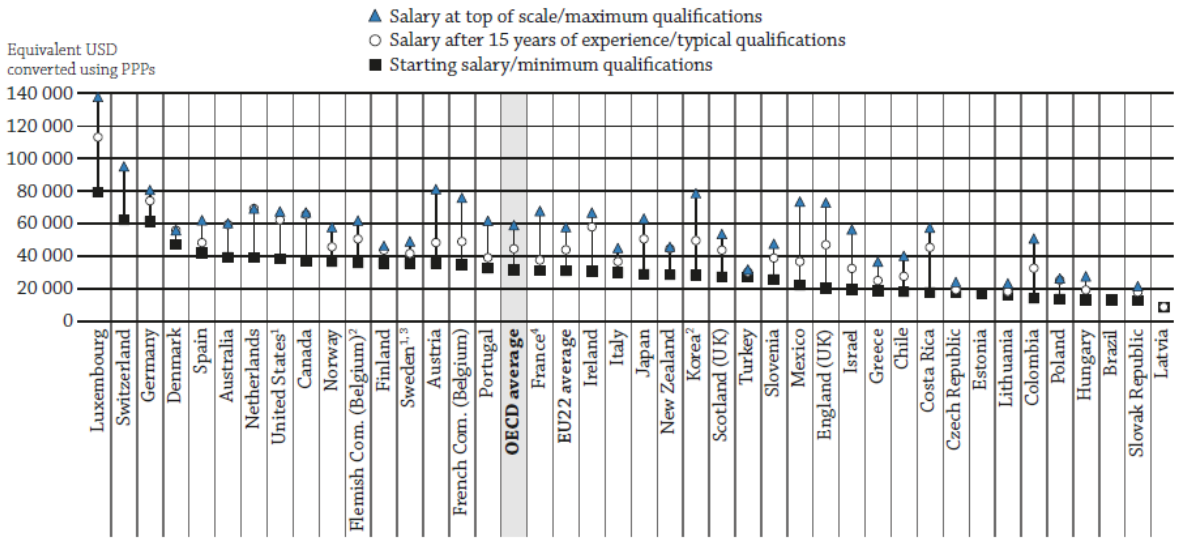
- Classes in primary and lower secondary schools in Japan are among the largest in OECD countries. In 2015, the average primary class in Japan had 27 students and the average secondary class 32 students, the second highest across the OECD. Class sizes in private institutions are slightly larger than in public institutions at both primary and secondary level, in contrast to many countries across the OECD. However, since 2005, class sizes have fallen by around 3-4%.
- The student-teacher ratio in Japan is slightly over the OECD average at primary level with 17 students per teacher (compared to an OECD average of 15), but at par at secondary level with 13 students per teacher. The lower ratio at secondary level reflects the teacher allocation system in Japan where secondary teachers require a licence to teach a specific subject.
- Teachers in Japan have some of the longest total statutory working hours in the OECD. Statutory working time for public school teachers in Japan is 1 891 hours per year for all levels of education from pre-primary to upper secondary, compared to the OECD average of 1 611 hours at primary level, 1 634 hours for lower secondary general programmes and 1 620 hours for upper secondary general programmes.
- However, despite longer working hours, teachers in Japan spend relatively little time teaching. Approximately 39% of their working time is spent teaching at primary level, 32% at lower secondary level, and 27% at upper secondary level, lower than the OECD averages of 49%, 44% and 41% respectively. This is due to the fact that in Japan, teachers are required to dedicate more time to activities other than teaching, such as school counselling, extracurricular activities, administration, and meetings with other teachers and staff, in a holistic approach to teaching as reaffirmed by the Kurashiki G7 Declaration.
- Students in Japan are required to spend a total of 4 576 hours in primary education and 2 680 hours in lower secondary education, lower than the OECD average of 4 626 hours and 2 911 hours respectively. However, Japan

has more instruction days per year (201 days on average) at primary and lower secondary level compared to the OECD average of 185 and 184 days per year respectively.

- Teachers' statutory salaries vary very little for a given level of experience between primary, lower and upper secondary education in Japan. However, while starting salaries in Japan are lower than the OECD average, salaries rise faster with experience than in other countries. For example, after 10 years of experience the salary of teachers in Japanese primary and lower secondary schools is almost the same as the OECD average and, after 15 years, teachers in primary and secondary schools including those in upper secondary schools earn more than the OECD average. Salaries at the top of the scale are about 12-20% higher in Japan than on average across OECD countries depending on the level of education taught, resulting in one of the larger differences between top of the scale and starting salaries (Figure 3). These above-average salaries after years of work experience could be explained by teachers' long statutory working hours in Japan.

Figure 3. Lower secondary teachers' salaries at different points in teachers' careers (2015)

Annual statutory salaries of teachers in public institutions, in equivalent USD converted using PPPs



1. Actual base salaries.
2. Salaries at top of scale and typical qualifications, instead of maximum qualifications.
3. Salaries at top of scale and minimum qualifications, instead of maximum qualifications.
4. Includes the average of fixed bonuses for overtime hours.

Countries and economies are ranked in descending order of starting salaries for lower secondary teachers with minimum qualifications.

Source: OECD (2017), Table D3.1a, Tables D3.1b and D3.6, available on line. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).

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- Teachers' statutory salaries have fallen in recent years in Japan. Salaries for primary and secondary teachers with 15 years of experience fell by 6-7% between 2005 and 2015. In contrast, across OECD countries teachers' statutory salaries increased by 6% on average at the primary level, 6% at the lower secondary level and 4% at the upper secondary level.
- Japan mostly has gender parity in the teaching profession, with women making up 48% of all teachers. However this masks huge disparities across the education levels with women dominating at the lower levels of education (97% of teachers at the pre-primary level) but very much under-represented at higher levels of education (30% at secondary level and 27% at tertiary level).
- Teachers are getting older: the share of teachers aged 50 and over in Japan has increased by 10 percentage points since 2005, double the increase observed on average across OECD countries.

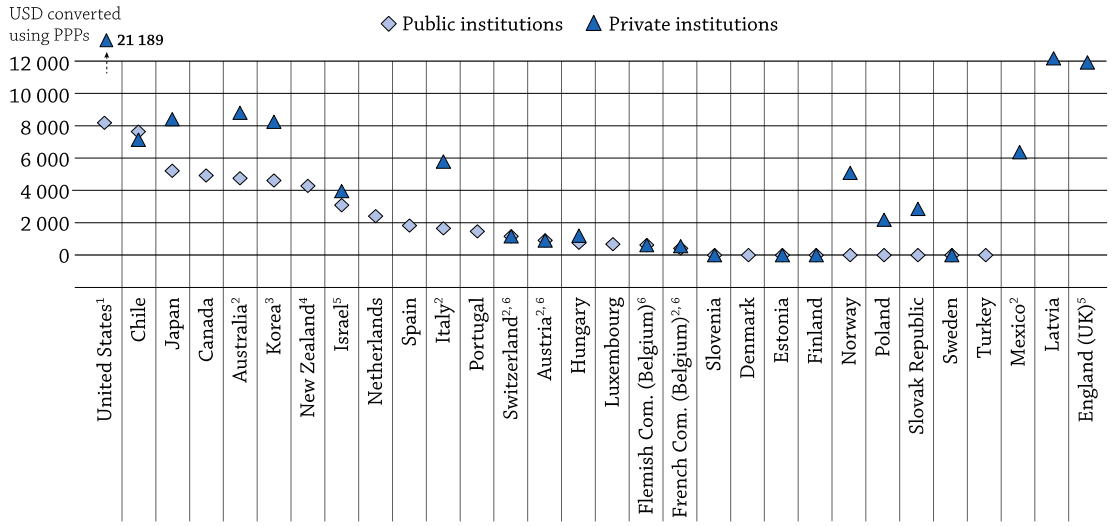
While tertiary attainment is increasing, international mobility remains limited

- Access to tertiary education has been expanding in the past decade in Japan. Half of the working age population (age 25-64) is tertiary-educated, more than the OECD average of 37%, and the share has increased to 60% among 25-34 year-olds, one of the highest attainment rates among OECD countries for this age group after Korea and Canada.
- In Japan, 80% of the adult population can expect to enter tertiary education in their lifetime, 15 percentage points above the OECD average of 66%. While the share of first-time new entrants pursuing bachelor's programmes is 12 percentage points lower than the OECD average, short-cycle tertiary programmes are more prevalent in Japan, with 36% of first-time new entrants entering this level, more than twice the OECD average.

- Japan has the lowest average age for bachelor's, master's and doctoral programmes across OECD countries, with students entering on average at 18, 23 and 26 years of age respectively, quickly after completing upper secondary level.

Figure 4. Tuition fees charged by public and private institutions at bachelor's or equivalent level (2015/16)

Average annual tuition fees charged to full-time national students converted in USD using PPPs for GDP



Note: For countries and economies for which only a range was available, this figure plots the average between the minimum and maximum tuition fee levels: Flemish Com. (Belgium), Latvia, Luxembourg and Portugal.

1. Year of reference 2011/12.
2. Year of reference 2014/15.
3. Year of reference 2016.
4. Estimates include short-cycle tertiary and bachelor's or equivalent programmes in universities only and exclude second programmes at ISCED 6, such as postgraduate certificates and diplomas. Data include goods and services tax (15%).
5. Year of reference 2013/14.
6. Private institutions cover government-dependent private institutions only.

Countries and economies are ranked in descending order of the tuition fees charged by public institutions.

Source: OECD (2017), Table B5.1. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).

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- As part of the Japan Revitalisation Strategy, Japan aims to double the number of Japanese students overseas by 2020 (OECD, 2015). Despite this, the share of Japanese enrolled abroad is smaller still: less than 1% of national tertiary students are enrolled abroad compared to 5.9% on average across OECD countries. Moreover, the share of international students in Japan, at 3.4%, is also lower than the OECD average of 5.6%.
- A declining demography, has contributed to a decline in the number of tertiary students which may strain the financial viability of tertiary institutions. To counter falling enrolment, many institutions have resorted to increasing tuition fees, which are already among the highest across OECD countries. Tuition fees in private institutions, where 79% of Japanese tertiary students are enrolled, have increased by 7 percentage points since 2005 to USD 8 269 for the year 2015/16, placing a significant financial burden on students and their families (Figure 4). However, Japan has recently implemented reforms to improve the financial support system to students, including a grant-type scholarship scheme, increased interest-free student loans[2], and the introduction of an income-based repayment system (a flexible monthly repayment system after graduation).
- In spite of the high tuition fees, the earning advantages of tertiary-educated adults are higher: adults with tertiary education qualifications still earn 52% more in the labour market than those whose highest attainment is upper secondary, similarly to the OECD average. However, strong gender disparities exist in labour market outcomes: the private returns for men on attaining a tertiary education are more than eight times those of women with similar qualifications, the largest among OECD countries. This is mostly due to a lower earnings benefit, a combination of lower employment rates and earnings. This is now being addressed through the policies promoted by the Japan Revitalisation Strategy, which was revised in 2014 to encourage women's participation in the labour market, such as improved access to childcare (OECD, 2015).

[2] Referred to as « interest-free scholarship loans » in Japan

Note regarding data from Israel

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.

References

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For more information on Education at a Glance 2017 and to access the full set of Indicators, visit www.oecd.org/education/education-at-a-glance-19991487.htm.

Updated data can be found on line at OECD.Stat as well as by following the StatLinks under the tables and charts in the publication http://dx.doi.org/10.1787/eag-data-en.

Explore, compare and visualise more data and analysis using: Education GPS
http://gpseducation.oecd.org/CountryProfile?primaryCountry=JPN&treshold=10&topic=EO.

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Key Facts for Japan in Education at a Glance 2017

Source	Main topics in *Education at a Glance*	Japan		OECD average	
	Fields of study				
	Graduates in upper secondary vocational programmes	**2015**			
		%	**% Women**	**%**	**% Women**
Table A2.1	Business, administration and law	31%	63%	20%	66%
	Engineering, manufacturing and construction	42%	11%	34%	12%
	Health and welfare	6%	84%	12%	82%
	Services	8%	81%	17%	60%
	New entrants to tertiary education	**2015**			
		%	**% Women**	**%**	**% Women**
Table C3.1	Education	9%	71%	9%	78%
	Business, administration and law	20%	35%	23%	54%
	Engineering, manufacturing and construction	16%	13%	16%	24%
	Tertiary students enrolled, by mobility status	**2015**			
		International students[1]	**National students**	**International students[1]**	**National students**
Table C4.2.	Education	2%	9%	3%	8%
	Business, administration and law	8%	22%	27%	23%
	Engineering, manufacturing and construction	20%	16%	17%	12%
	Tertiary-educated 25-64 year-olds	**2016**			
Table A1.3	Education	**		13%	
	Business, administration and law	**		23%	
	Engineering, manufacturing and construction	**		17%	
	Employment rate of tertiary-educated 25-64 year-olds	**2016**			
Table A5.3	Education	**		83%	
	Business, administration and law	**		85%	
	Engineering, manufacturing and construction	**		87%	
	Early childhood education				
	Enrolment rates in early childhood education at age 3	**2015**			
Table C2.1	ISCED 01 and 02	80%		78%	
	Expenditure on all early childhood educational institutions	**2014**			
Table C2.3	As a percentage of GDP	0.2%		0.8%	
	Proportions of total expenditure from public sources	46%		82%	
	Vocational education and training (VET)				
	Enrolment in upper secondary education, by programme orientation	**2015**			
		General	**Vocational**	**General**	**Vocational**
Table C1.3	Enrolment rate among population aged 15-19 year-olds	46%	13%	37%	25%
	Graduation rates, by programme orientation	**2015**			
		General	**Vocational**	**General**	**Vocational**
Table A2.2	Upper secondary education - All ages	75%	23%	54%	44%
	Employment rate, by programme orientation	**2016**			
		General	**Vocational**	**General**	**Vocational**
Figure A5.3.	25-34 year-olds with upper secondary or post-secondary non-tertiary education as their highest educational attainment level	**	**	70%	80%
	Tertiary education				
	Share of international or foreign students, by level of tertiary education	**2015**			
Table C4.1.	Bachelor's or equivalent	2%		4%	
	Master's or equivalent	7%		12%	
	Doctoral or equivalent	18%		26%	
	All tertiary levels of education	3%		6%	
	Educational attainment of 25-64 year-olds	**2016**			
Table A1.1	Short-cycle tertiary	21%		8%	
	Bachelor's or equivalent	29%		16%	
	Master's or equivalent	**		12%	
	Doctoral or equivalent	**		1%	
	Employment rate of 25-64 year-olds, by educational attainment	**2016**			
Table A5.1	Short-cycle tertiary	78%		81%	
	Bachelor's or equivalent	87%		83%	
	Master's or equivalent	**		87%	
	Doctoral or equivalent	**		91%	
	All tertiary levels of education	83%		84%	
	Relative earnings of full-time full-year 25-64 year-old workers, by educational attainment (upper secondary education = 100)	**2015**			
Table A6.1	Short-cycle tertiary	**		122	
	Bachelor's or equivalent	**		146	
	Master's, doctoral or equivalent	**		198	
	All tertiary levels of education	152		156	

Source	Main topics in *Education at a Glance*	Japan		OECD average	
	Adult education and learning				
	Participation of 25-64 year-olds in adult education[2]	**2012**		**2012[3]**	
Table C6.1a	Participation in formal education only	1%		4%	
	Participation in non-formal education only	39%		39%	
	Participation in both formal and non-formal education	2%		7%	
	No participation in adult education	58%		50%	
	Financial investment in education				
	Annual expenditure per student, by level of education (in equivalent USD, using PPPs)	**2014**			
Table B1.1	Primary education	USD 9 062		USD 8 733	
	Secondary education	USD 10 739		USD 10 106	
	Tertiary (including R&D activities)	USD 18 022		USD 16 143	
	Total expenditure on primary to tertiary educational institutions	**2014**			
Table B2.1	As a percentage of GDP	4.4%		5.2%	
	Total public expenditure on primary to tertiary education	**2014**			
Table B4.1	As a percentage of total public expenditure	8.2%		11.3%	
	Teachers				
	Actual salaries of teachers in public institutions relative to wages of full-time, full-year workers with tertiary education	**2015**			
Table D3.2a	Pre-primary school teachers	**		0.78	
	Primary school teachers	**		0.85	
	Lower secondary school teachers (general programmes)	**		0.88	
	Upper secondary school teachers (general programmes)	**		0.94	
	Annual statutory salaries of teachers in public institutions, based on typical qualifications, at different points in teachers' careers (in equivalent USD, using PPPs)	**2015**			
		Starting salary	**Salary after 15 years of experience**	**Starting salary**	**Salary after 15 years of experience**
Table D3.1a	Pre-primary school teachers	**	**	USD 29 636	USD 39 227
	Primary school teachers	USD 29 009	USD 50 636	USD 30 838	USD 42 864
	Lower secondary school teachers (general programmes)	USD 29 009	USD 50 636	USD 32 202	USD 44 623
	Upper secondary school teachers (general programmes)	USD 29 009	USD 50 636	USD 33 824	USD 46 631
	Organisation of teachers' working time in public institutions over the school year	**2015**			
		Net teaching time	**Total statutory working time**	**Net teaching time**	**Total statutory working time**
Table D4.1	Pre-primary school teachers	**	1891 hours	1001 hours	1608 hours
	Primary school teachers	742 hours	1891 hours	794 hours	1611 hours
	Lower secondary school teachers (general programmes)	610 hours	1891 hours	712 hours	1634 hours
	Upper secondary school teachers (general programmes)	511 hours	1891 hours	662 hours	1620 hours
	Percentage of teachers who are 50 years old or over	**2015**			
Table D5.1	Primary education	31%		32%	
	Upper secondary education	37%		40%	
	Share of female teachers in public and private institutions	**2015**			
Table D5.2	Primary education	65%		83%	
	Upper secondary education	30%		59%	
	Tertiary education	27%		43%	
	Ratio of students to teaching staff	**2015**			
Table D2.2	Primary education	17		15	
	Secondary education	13		13	
	Tertiary education	**		16	
	Equity				
	Intergenerational mobility in education[2]	**2012**		**2012[3]**	
		Both parents have less than tertiary	**At least one parent attained tertiary**	**Both parents have less than tertiary**	**At least one parent attained tertiary**
Tables A4.1 and A4.2	Less than tertiary education (30-44 year-olds' own educational attainment)	59%	25%	69%	31%
	Tertiary-type B (30-44 year-olds' own educational attainment)	21%	29%	12%	16%
	Tertiary-type A and advanced research programmes (30-44 year-olds' own educational attainment)	20%	45%	20%	55%
	Transition from school to work				
	Percentage of people not in employment, nor in education or training (NEET)	**2016**			
Table C5.1	18-24 year-olds	**		15%	
	Education and social outcomes				
	Percentage of adults who report having depression	**2014**			
		Men	**Women**	**Men**	**Women**
Table A8.1	Below upper secondary	**	**	10%	15%
	Upper secondary or post-secondary non-tertiary	**	**	6%	10%
	Tertiary	**	**	5%	6%

The reference year is the year cited or the latest year for which data are available.

Refer to Annex 3 for country-specific notes and for more information on data presented in this key facts table (www.oecd.org/education/education-at-a-glance-19991487.htm).

1. For some countries foreign students are provided instead of international students.

2. Data refer to ISCED-97 instead of ISCED-A 2011.

3. OECD average includes some countries with 2015 data.

** Please refer to the source table for details on this data.

Cut-off date for the data: 19 July 2017. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en