

Education at a Glance 2007

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OECD Briefing Note for JAPAN

Governments are paying increasing attention to international comparisons as they search for effective policies that enhance individuals' social and economic prospects, provide incentives for greater efficiency in schooling, and help to mobilise resources to meet rising demands.

In response to this need, the OECD Directorate for Education devotes a major effort to the development and analysis of quantitative, internationally comparable indicators, which are published annually in *Education at a Glance*. These indicators enable educational policy makers and practitioners alike to see their education systems in the light of other countries' performances and, together with OECD's country policy reviews, are designed to support and review the efforts that governments are making towards policy reform.

This note contrasts **key findings for Japan** with **global trends among OECD countries**, under the headings: quantity and quality challenges, equity challenges, and resource and efficiency challenges.

Education at a Glance 2007, as well as its executive summary, all data and web-only tables, can be downloaded free of charge at www.oecd.org/edu/eag2007.

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QUANTITY AND QUALITY CHALLENGES

*Previous editions of **Education at a Glance** have shown how demands for more and better education have driven a massive quantitative expansion of education systems in OECD countries, particularly at the tertiary level of education. What has been the impact of this on labour market returns? Has the increasing supply of well-educated labour been matched by the creation of an equivalent number of high-paying jobs? Or one day will everyone have a university degree and work for the minimum wage?*

It is certainly conceivable that at least some new graduates will end up doing jobs that do not require graduate skills and that they will obtain these jobs at the expense of less highly qualified workers. Such a crowding-out effect may be associated with a relative rise in unemployment among people with low qualifications (as higher-qualified workers take their jobs), but also potentially with a reduction in the pay premium associated with tertiary qualifications (as a rise in graduate supply outstrips any rise in demand for graduate skills).

***Education at a Glance 2007** examines this question and the results suggest that the expansion has had a positive impact for individuals and economies and that there are, as yet, no signs of an “inflation” of the labour-market value of qualifications.*

Global trends

Education systems continue to expand at a rapid pace.

- In most OECD countries, among adults aged 55 to 64 (who entered the workforce in the 1960s and early 1970s) between 7 and 27% have completed higher education, except in Canada and the United States where more than 30% have done so. Among younger adults aged 25 to 34, at least 30% have obtained tertiary qualifications in 19 countries and over 40% have in 6 countries (Indicator A1). On average, the proportion of the population with tertiary qualifications has risen from 19 to 32% of the population between these two groups.
- Although most countries have seen at least some growth in tertiary enrolments (Indicator C2) and in tertiary attainment, the rate of expansion has varied widely from one country to another and from one time period to another. Much of the growth has come from periods of rapid, policy-driven expansion in certain countries. Korea, Ireland and Spain, for example, more than doubled the proportion of tertiary graduates entering the workforce between the late 1970s and the late 1990s from initially low levels. In the United States and Germany, however, the proportion remained largely unchanged, with relatively high levels in the United States and comparatively low levels in Germany (Indicator A1).
- Current rates of graduation from traditional universities range from around 20% or less in Austria, Germany and Turkey to more than 40% in Australia, Denmark, Finland, Iceland, Italy, the Netherlands, New Zealand, Norway and Poland. These graduation rates tend to be higher in countries where the programmes provided are of shorter duration.

Key results for Japan

Japan has moved from 14th to 2nd among OECD countries in tertiary attainment over the last generations...

- In terms of the proportion of young persons with university or equivalent vocational qualifications, Japan now performs at rank 2 among the 30 OECD countries, up from rank 14 two generations ago: 53% of 25-to-34-year-olds have attained tertiary qualification (32% at the OECD average level) compared to 22% of 55-to-64-year-olds (Table A1.3a).

...and occupies rank 10 in university-attainment...

- When looking at university qualifications alone Japan performs at rank 10, with 28% of 25-to-34-year-olds having a Tertiary-Type A qualification, against 13% of 55-to-64-year-olds (Table A1.3a).
- With 36% of the typical age cohort completing a full length first higher education course (“Type A” in the international classification), the current output of universities in Japan is at the level of the OECD average (Table A3.1).

...but current enrolment rates suggest that other countries are catching up.

- Current enrolment rates suggest that more countries are likely to catch up and surpass graduation rates in Japan. The increase in tertiary enrolment in Japan between 1995 and 2004, which will influence future graduation rates, was, at 24%, considerably below the OECD average increase of 41% (Table B1.5) and well below increases in Australia, the Czech Republic, Greece, Hungary, Ireland, Korea, Mexico, Poland, Portugal, the Slovak Republic, Switzerland and Sweden, that ranged from 31% to 124% during the same period.

41% of today’s young people in Japan will enter a university level or equivalent programme during their lifetime, and this rises to over 70% when including

<ul style="list-style-type: none"> On average across OECD countries, the graduation rate for shorter, vocationally oriented programmes represents 9%, and 1.3% for programmes leading to advanced research qualifications. 	<p><i>vocational programmes...</i></p> <ul style="list-style-type: none"> On average across OECD countries, 37% of an age cohort entered tertiary-type A programmes in 1995 and this proportion rose to 55% in 2005 (Table C2.5). Over the same period (gross) entry rates in Japan rose by 11 percentage points only, from 30% to 41% (Table C2.5). On average across OECD countries, 18% of an age cohort entered tertiary-type B programmes in 1995 and this proportion decreased to 15% in 2005 (Table C2.5). Over the same period (gross) entry rates in Japan were stable at about 30% (31% in 1995 and 30% in 2005) which is the 4th rank among countries with available data (Table C2.5). <p><i>...and most of those who enter also complete their degree successfully.</i></p> <ul style="list-style-type: none"> Whereas on average among the 23 countries with available data 29% of tertiary-type A students fail to successfully complete programmes at this level, survival rate in Japan is, at 91%, the highest level among OECD countries (Table A3.6).
<p><i>In most countries, the number of science graduates has increased faster than the overall number of graduates.</i></p> <ul style="list-style-type: none"> The number of persons with a tertiary science degree per 100,000 employed persons ranges from below 700 in Hungary to above 2200 in Australia, Finland, France, Ireland, Korea, New Zealand and the United Kingdom (Table A3.4). The ratio of younger to older age groups with science as a field of study is 3.0, compared with a ratio for all fields of study of 2.3. In Austria and Canada, the ratio is larger than 4.0, in Hungary and Ireland larger than 6.0, and in Portugal and Spain larger than 8.0 (Table A1.5). 	<p><i>In Japan, the number of science graduates remains below the OECD average...</i></p> <ul style="list-style-type: none"> In Japan, there are 1596 people with a tertiary science degree per 100,000 employed 25-34-year-olds, compared with an OECD average of 1675 (Table A3.4). <p><i>...mainly because of low female participation.</i></p> <ul style="list-style-type: none"> The number of females science graduates from tertiary education per 100 000 25-to-34-year-olds in employment is the lowest among OECD countries and much lower than that of males (573 against 2302). It is also much lower than the OECD average (1175) (Table A3.4).
<p><i>The effects of tertiary expansion: a high calibre workforce or the overqualified crowding out the lesser qualified?</i></p> <ul style="list-style-type: none"> The labour-market and financial incentives for attaining tertiary qualifications continue to remain high for both men and women, despite the rapid growth in the number of those obtaining qualifications. This can be seen when contrasting the advantages of tertiary education for individuals in terms of higher average earnings, lower risks of unemployment and the public subsidies they receive during their studies, with the costs that individuals incur when studying, such as tuition fees, lost earnings during studies and higher tax rates later in life. The private rate of return for those who acquire 	<p><i>The labour-market benefits in tertiary education are above the average.</i></p> <ul style="list-style-type: none"> Whereas there are no data available for Japan on the financial incentives for attaining tertiary qualifications, employment rates and unemployment rates by attainment levels still show a clear advantage for those that attain a tertiary qualification (Tables A8.1a and A8.2a). Unemployment rates for the 25-to-64-year-olds having attained a university qualification are 2 percentage points lower for males and more than 1 percentage point lower for females than unemployment rates for those having attained at most an upper secondary qualification. And unemployment rates for those having attained a university qualification are below the OECD averages (2.5 against 3.6 for males, 3.0 against 4.3 for females). The opposite

tertiary degrees immediately following school is higher than real interest rates, and often significantly so, at 9.8% or above in all eleven countries for which data are available – except for Denmark, New Zealand and Sweden (Table A9.6).

- The average unemployment rate among those only with lower secondary education is 5 percentage points higher than those whose highest level is upper secondary and 7 points higher than those with tertiary education (Indicator A8). The data show that while unemployment is substantially higher than the average among those with low qualifications, this situation has not worsened in those countries that have expanded tertiary education. However, in those countries that did not expand tertiary education, there has been a rise in the relative risk. Indeed, in these countries a failure to complete upper secondary education is now associated with an 80% greater probability of being unemployed, compared to less than 50% in those countries that have increased tertiary education the most.
- Countries expanding tertiary education attainment more in the late 1990s tended to have a greater fall (or smaller rise) in unemployment between 1995 and 2004 than countries with less tertiary expansion. For example, France, Ireland and Korea had the fastest growth in tertiary attainment and close to zero or negative growth in unemployment; Germany, the Czech Republic and the Slovak Republic had low or no growth in tertiary attainment but substantial growth in unemployment among the unqualified (Indicator A1).
- The indicators provide no evidence that the lesser qualified are crowded out from the labour market and there is much to point to the opposite: that the least educated individuals benefit in terms of better employment opportunities when more people enter higher education. Employment prospects among the least well-educated are principally tied to growth in the economy and in general to productivity, to which an adequate supply of high-skilled labour can potentially contribute.
- Furthermore, higher qualifications do not create unemployment among those with tertiary qualifications or a slump in their pay. Although this does not imply that tertiary graduates enter jobs in line with their qualifications, it still indicates that the benefits of higher education have not deteriorated as higher education has expanded. And while there have been some small rises in the relative risk of unemployment for graduates, this has been no worse where tertiary attainment has expanded fastest.
- In all OECD countries graduates face much lower levels of unemployment than do other groups. In

trend is observed for employment rates (Table A8.2a).

<p>terms of pay, the data suggest some curbing of an increasing advantage for tertiary graduates where their supply has risen fastest, but not a general fall.</p>	
<p><i>The internationalisation of tertiary education is proceeding rapidly.</i></p> <ul style="list-style-type: none"> • In 2005, over 2.7 million tertiary students were enrolled outside their country of citizenship. This represented a 5% increase in total foreign student intake reported to the OECD and the UNESCO Institute for Statistics from the previous year. • Student mobility – <i>i.e.</i> international students who travelled to a country different from their own for the purpose of tertiary study – ranges from below 1 to almost 18% of tertiary enrolments. International students are most numerous in tertiary enrolments in Australia, Austria, France, New Zealand, Switzerland and the United Kingdom. • France, Germany, the United Kingdom and the United States receive more than 50% of all foreign students worldwide. In absolute numbers, international students from France, Germany, Japan and Korea represent the largest numbers from OECD countries. Students from China and India comprise the largest numbers of international students from partner economies. • In Spain, Switzerland and the United States, and the partner economy Brazil, more than 15% of international students are enrolled in advanced research programmes. • 30% or more of international students are enrolled in sciences, agriculture or engineering in Finland, Germany, Hungary, Sweden, Switzerland, the United Kingdom and the United States. • International graduates contribute to 20% or more of the graduate output for tertiary-type A programmes in Australia and the United Kingdom. The same holds for foreigners graduating in Belgium. The contribution of international and foreign graduates to the tertiary graduate output is especially high for advanced research programmes in Belgium, Switzerland, the United Kingdom and the United States. 	<p><i>Japan has become one of the most attractive destinations for foreign students...</i></p> <ul style="list-style-type: none"> • Japan has become one of the more attractive destinations for international students with nearly 5% of foreign students worldwide enrolled in Japan. This is the 6th rank among OECD countries, after the United States (22%), the United Kingdom (12%), Germany (10%), France (9%) and Australia (6%) (Chart C3.2 and Web-based Table C3.8). The rate of internationalisation (number of tertiary foreign students) has increased by 89% since 2000 compared to 93% at the OECD average, which indicates that Japan does not catch up compared to the OECD average (Table C3.1). • At 89% the increase in foreign enrolment was the fifth highest among OECD countries, after New Zealand, Korea, the Czech Republic and the Netherlands. <p><i>...in particular for students from other Asian countries.</i></p> <ul style="list-style-type: none"> • 94.2% of foreign students enrolled in tertiary education in Japan come from Asia, including 66.1% from China and 17.9% from Korea. Outside of Asia, the main geographic regions of origin are Europe (2.2%) and North America (1.4%) (Table C3.2). <p><i>Whereas international students represent a small proportion of enrollees in Japan, they constitute a significant part of the graduate output</i></p> <ul style="list-style-type: none"> • However, in Japan there are only 2.8% of international students in total enrolments at tertiary level (and 3.1% of foreign students). This is significantly less than the OECD average of 6.7% (and 7.6% of foreign students) (Table C3.1). • Nevertheless, the contribution of international students to the graduate output is significant in Japan: about 9% in tertiary-type A and 16% in advanced research programmes, as in some other countries (Austria, Belgium, New Zealand and the United States) but far less important than in Australia, Switzerland and the United Kingdom (Chart C3.5). • Foreign students are charged similar amounts of fees than national students in Japan (around USD 4,000 per year in PPP terms) which is also the case in France, Italy, Korea, Mexico, Portugal and Spain, but tuition fees are higher than in most other countries (Box C3.3 and Table B5.1). Nevertheless, this does not seem to discourage prospective international students. This is different from the strategy of countries that have initiated policies to attract international students on a revenue-generating or at least self-financing basis, such as Australia, New

Zealand, the United Kingdom and the United States by applying differentiated tuition fees for international students.

- Students from Japan who are studying abroad comprise the second largest groups of international students enrolled in OECD countries after Korea, with 2.9% of all enrollees (Table C3.2).

The large majority of the Japanese intake of foreign students is mostly attracted by social sciences, business and law as well as humanities and arts programmes.

- It is worth noting that international students in Japan (as well as other non-Anglophone countries) enrol in significant numbers in social sciences, business and law (34.7% of the total) as well as humanities and arts programmes (25.2% of the total), and in higher proportions than other countries (Table C3.5).

EQUITY CHALLENGES

While individuals with high level qualifications continue to see strong labour-market returns, those without strong baseline qualifications, defined by the OECD as those who have not attained a qualification at the upper secondary level, have seen rapidly deteriorating labour-market prospects in most countries. It is therefore increasingly important for education and training systems to ensure that young adults leave schools with strong baseline qualifications or attain these subsequently.

Education at a Glance 2007 completes the data on the graduate output at the upper secondary level and the incidence and intensity of job-related non-formal education with new data on the relationship between social background and both learning outcomes at schools and participation in university-level education. The strength of the relationship between the socio-economic background of individuals and their educational outcomes provides one way of examining to what extent countries are using their potential in generating future human capital and allows for assessment of equity in the distribution of learning opportunities.

<i>Global trends</i>	<i>Key results for Japan</i>
<p><i>In most OECD countries, upper secondary education is becoming universal, but in some countries a sizeable minority is left behind.</i></p> <ul style="list-style-type: none"> • The proportion of individuals in the population who have successfully completed upper secondary education (see notes on definition at the end) has been rising in almost all OECD countries, and rapidly in some. In more than half of all OECD countries the proportion of 25-to-34-year-olds with upper secondary qualifications now exceeds 80%, and in Canada, the Czech Republic, Korea, the Slovak Republic and Sweden it exceeds 90% (Table A1.2a). • Those who have attained at least upper secondary education enjoy substantial earnings advantages (Chart A9.4). For many countries, the earnings disadvantage of those without upper secondary qualifications has significantly worsened (Table A9.2a). • Gender differences in employment and unemployment rates are largest among those without upper secondary education (Chart A8.1) 	<p><i>In Japan, upper secondary graduation level rose sooner than on average in OECD countries.</i></p> <ul style="list-style-type: none"> • In Japan, upper secondary graduation rates equal or exceed 90% (table A2.1). However, whereas upper secondary graduation rate has increased by 7 percentage points on average across OECD countries since 1995, in Japan the graduation rate has been stable for the last 10 years period (Table A2.2). <p><i>Those who do not attain this level face less difficulties than the OECD average on the labour market</i></p> <ul style="list-style-type: none"> • Compared to the OECD average, a higher proportion of the population having attained upper secondary level of education is in employment in Japan: 86% of males (OECD average 82%) and 59% of females (OECD average 66%) Japanese with an upper secondary qualification (type A) are in employment. For those without an upper secondary qualification, it is only 79% for males and 53% for females in 2003, but this is over the OECD averages (69% for males and 46% for females) (Tables A8.1a, A8.3b and A8.3c). • Unemployment rates for those that do not attain upper secondary levels are higher than for those that have attained this level (6.7% against 5.4% in 2003), but these unemployment rates remain below the OECD average in Japan (10% in 2003 for those without an upper secondary qualification) (Table A8.4a)
<p><i>In some countries, student's expectations for their own educational future are also closely related to their social background.</i></p> <ul style="list-style-type: none"> • Some 57% of 15-year-olds in OECD countries expect to go to university, but this rate varies from as high as 95% of students in Korea to as low as 21% in Germany. Indicators show that expectations vary within countries according to individual performance 	<p><i>Students expectations in Japan are above the OECD average level, and Japan is the only country with higher expectations for males than females.</i></p> <ul style="list-style-type: none"> • The percentage of 15-year olds in Japan who expect to complete a university-level programme, at 50.7%, is above the OECD average (44.5%). However, these expectations are lower than the OECD average for the lower performers in mathematics and much higher than

<p>levels, gender, socio-economic background and immigrant status. Data collected in 2003 through OECD PISA show that 15-year-olds' expectations for completing a university-level programme are closely linked with their performance in mathematics and reading. Regardless of their relative academic abilities, 15-year-olds from lower socio-economic backgrounds are less likely to expect to complete tertiary education than those from higher socio-economic backgrounds. In most countries, 15-year-old students from immigrant backgrounds are more likely to expect to complete a university-level programme than their native counterparts. The relative expectations of these students are even higher when compared with native students of similar aptitudes and socio-economic backgrounds.</p>	<p>the OECD average for the top performers.</p> <ul style="list-style-type: none"> • Japan is the sole OECD country where expectations for completing tertiary-Type A or advanced research programmes are more prevalent among males than females. Whereas on average in OECD countries 48% of females and 41% of males expect to complete tertiary-Type A or advanced research programmes, in Japan 54% of males and 48% of females expect to complete these levels of education (Table A4.3a). This may result from historical trends in graduation rates as the proportions of 25-to-34-year-old and 35-to-44-year-old males that attain tertiary-Type A and advanced research programmes exceed that of females by the largest amount of any OECD country.
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RESOURCE AND EFFICIENCY CHALLENGES

*The expansion of education has been accompanied by massive financial investments. **Education at a Glance 2007** shows that between 1995 and 2004, and for all levels of education combined, expenditure on educational institutions increased by an average of 42% in OECD countries. The sustainability of the continued expansion will, however, depend on re-thinking how education is financed and how to ensure that it is more efficient. In some countries, spending per student has already begun to decline – most notably in the Czech Republic, Hungary, the United Kingdom and Poland – as enrolments rose faster than spending on tertiary education.*

While significant additional investments in education will be important, it is equally clear that more money alone will not be enough. Investments in education will also need to become more efficient. The education sector has not yet re-invented itself in ways that other professions have done to improve outcomes and raise productivity. Indeed, the evidence suggests the reverse, namely that productivity in education has generally declined because the quality of schooling has broadly remained constant, while the price of the inputs has markedly increased. As the place and mode of educational provision have largely remained unchanged, the labour-intensiveness of education and the predominance of teachers' salaries in overall costs (with pay scales based on qualifications and automatic increases) have made personnel costs rise over time.

Global trends	Key results for Japan
<p>OECD countries spend 6.2% of their collective GDP on educational institutions, but the increase in spending on education between 1995 and 2004 fell behind growth in national income. There is further scope for enhancing the efficiency of educational spending.</p> <ul style="list-style-type: none"> • More people are completing upper secondary and tertiary education than ever before, and in many countries the expansion has been accompanied by massive financial investments. Between 1995 and 2004 and for all levels of education combined, expenditure on educational institutions increased in the 24 countries with comparable data for the period. The increase was, on average, 42% in OECD countries. The increase is usually larger for tertiary education than for primary to post-secondary non-tertiary levels of education combined. • At the tertiary level of education, the increase of expenditure over the period 1995-2004 was more pronounced from 2000 onward than before 2000 in 	<p>Japan is devoting a roughly constant but low share of GDP to education.</p> <ul style="list-style-type: none"> • Spending on educational institutions in Japan increased slightly from 4.7% of GDP in 1995 to 4.8% in 2004, but this remains well below the OECD average of 5.8% (Chart B2.1 based on Table B2.1a). • When examining public investment only, Japan's share of educational expenditure in GDP is as low as 3.5, the lowest figure after Greece (Table B.24). <p>Also the educational share in the public budget is lower than the OECD average.</p> <ul style="list-style-type: none"> • In 2004, 9.8% of all public spending was devoted to educational institutions in Japan, compared to 13.4% on average among OECD countries, (the OECD average increased by 1.2 percentage points between 1995 and 2004) (Table B4.1). <p>A growing part of the resources is invested in tertiary education.</p>

nearly one-half of OECD countries. Between 2000 and 2004, expenditure increased by more than 30 percentage points in the Czech Republic, Greece, Mexico, Poland, the Slovak Republic and Switzerland and the partner economy Chile.

- It is important to relate overall spending on education to the investment made per student. OECD countries as a whole spend USD 7 572 per student annually between primary and tertiary education, that is – USD 5 331 per primary student, USD 7 163 per secondary student and USD 14 027 per tertiary student, but these averages mask a broad range of expenditure across countries. As represented by the simple average across all OECD countries, countries spend twice as much per student at the tertiary level than at the primary level.
- Lower unit expenditure does not necessarily lead to lower achievement and it would be misleading to equate lower unit expenditure generally with lower quality of educational services. For example, the cumulative expenditure of Korea and the Netherlands is below the OECD average and yet both are among the best-performing countries in the OECD PISA 2003 survey.
- Countries with low levels of expenditure per student can nevertheless show distributions of investment relative to GDP per capita similar to those countries with high levels of spending per student. For example, Hungary, Korea, Poland and Portugal, and the partner economy Estonia – countries with expenditure per student and GDP per capita below the OECD average at primary, secondary and post-secondary non-tertiary level of education – spend a higher proportion of money per student relative to GDP per capita than the OECD average.
- Expenditure per student at primary, secondary and post-secondary non-tertiary levels increased by 50% or more between 1995 and 2004 in Greece, Hungary, Ireland, Poland, Portugal, the Slovak Republic and Turkey, and the partner economy Chile. On the other hand, spending per student at the tertiary level has in some cases fallen, as expenditure does not keep up with expanding student numbers
- Expenditure on education tends to rise over time in real terms, as teachers' pay (the main component of costs) rises in line with general earnings. On the one hand, rising unit costs that are not paralleled by increasing outcomes raise the spectre of falling productivity levels in education. Across OECD countries, there is potential for increasing learning outcomes by 22% while maintaining current levels of resources (output efficiency). The scope for

- A growing part of the resources is invested in tertiary education, where expenditure increased between 1995 and 2004 by 25%, while spending on primary, secondary and post-secondary non-tertiary education increased by only 5%. Both changes in expenditure remain well below the OECD average increases at 55% and 39% respectively (Table B2.3).

Spending on the pre-primary level remains below the OECD average...

- Japan spends only USD 3 945 per child at the pre-primary level, a low investment compared to the OECD average spending per child of USD 4 741 (Table B1.1). Yet the rate of participation of 4-year-olds and under as a percentage of the 3-to-4-year-old population, at 82.0%, is significantly higher than OECD average of 68.5% (Table C2.1). This leads to a high average ratio of 17.4 students to teaching staff at pre-primary level, taking 11th highest ratio behind France, Korea, Mexico, Poland, Switzerland and Turkey and partner economies Brazil, Chile, Israel and Slovenia (Table D2.2).

... At primary, secondary and tertiary levels, spending per student is above the OECD average...

- Spending per student across all levels of education (excluding pre-primary education) in Japan is, at USD 8 148 (equivalent), above the OECD average of USD 7 061. Spending per student at primary (USD 6 551) and secondary (USD 7 615) and tertiary (USD 12 193) levels is above the corresponding OECD averages (USD 5 832; USD 7 276 and USD 11 100 respectively) (Table B1.1a). But the ratio of student to teaching staff at the secondary level is about the OECD average and is among the lowest at the tertiary level.
- On average among the 26 OECD countries for which data are available, two-thirds of all expenditure on educational institutions is allocated to primary, secondary and post-secondary non-tertiary education while around three-quarters of students are enrolled at this level of education. The difference between the two figures exceeds 10 percentage points in Japan as well as in 4 other OECD countries (Table B1.2).

For primary and secondary education, in those countries (including Japan) where demography has caused a fall in enrolments, spending per student rose in all countries, and often much faster than in Japan.

- Different supply and demand factors have influenced variation in spending per student across countries. In Japan, spending on primary and secondary education increased by only 5% while enrolments fell by 18%, one of the highest decreases among the OECD countries. These factors taken together result in a spending increase per student of 27% between 1995 and 2004, which is however still significantly less than the OECD average increase of 38% in per-student spending (Table B1.5).

<p>reducing the resources devoted to education while maintaining the current levels of outcomes is slightly larger, at 30% (input efficiency). Differences in estimates of efficiency for different types of school (e.g. public and private) tend to be modest, when looking at the OECD as whole, though efficiency savings are greater for smaller schools than for larger schools (Indicator B7).</p>	<p>Japan is among the seven OECD countries where changes in enrolment do seem to have been the main factor driving changes in expenditure per student.</p> <p><i>In tertiary education, a below-average increase in spending per student is partly due to a low increase in student enrolment.</i></p> <ul style="list-style-type: none"> • At the tertiary level, a below-average increase in spending in Japan (25%) can possibly be explained by an even lower increase in student enrolment (24%), such that spending per student increased by 1% only between 1995 and 2003. This result is below the 9% increase of spending per student on average among OECD countries over the same period (Table B1.5).
<p><i>Instruction time, teachers' salaries, and student-teacher ratios vary widely among countries.</i></p> <ul style="list-style-type: none"> • The choices countries make about how many hours and years students spend in the classroom and the subjects they study reflect national priorities and preferences. Budgetary considerations also help shape education: Teachers' salaries represent the largest single cost in providing school education and, as such, are a critical consideration for policy-makers striving to both maintain the quality of education and to contain spending. While class size has become a hot topic in many OECD countries, evidence on its impact on student performance is mixed. Among the findings on these nuts-and-bolts educational policy issues: • Students in OECD countries are expected to receive, on average, 6 898 hours of instruction between the ages of 7 and 14, of which: 1 586 hours are between ages 7 and 8; 2 518 hours between ages 9 and 11; and 2 794 hours between ages 12 and 14. The large majority of intended hours of instruction are compulsory. • In OECD countries, students between the ages of 7 and 8 receive an average of 769 hours per year of compulsory instruction time and 793 hours per year of intended instruction time in the classroom. Students between the ages of 9 and 11 receive about 45 hours more per year, and those aged between 12 and 14 receive just over 90 hours more per year than those aged between 9 and 11. • Salaries for teachers with at least 15 years' experience in lower secondary education are over twice the level of GDP per capita in Korea and Mexico; in Iceland, Norway and the partner economy Israel, salaries are 75% or less than GDP per capita. Those salaries range from less than USD 16 000 in Hungary to USD 51 000 or more in Germany, Korea and Switzerland, and more than 	<p><i>Despite above average spending per student, class sizes in primary and lower secondary schools remain very large in Japan ...</i></p> <ul style="list-style-type: none"> • Despite above average spending per primary-level student, Japan has, with 28.4 students per class, one of the largest average class sizes at the primary level of education, third only to Korea and partner economy Chile, and in all but 13 OECD countries and partner economies there are between 16 and 21 students per primary-level class (the OECD average is 21.5) (Table D2.1). It should be noticed, nevertheless, that class size tends to have decreased between 2000 and 2005 in countries that had had relatively large class sizes such as Japan, Korea and Turkey. Moreover, in primary education, class size in private institutions exceeds those in public institutions by more than 4 pupils (as in Luxembourg and Spain). • Similarly, in lower secondary education there are on average 33.5 students per class in Japan, far above the OECD average of 24.1. Of the 27 OECD countries and partner economies for which comparable data are available, only Korea has an even higher average class size at the lower secondary level (Table D2.1). <p><i>...which is, in part, accounted for by comparatively high teacher salaries.</i></p> <ul style="list-style-type: none"> • One explanatory factor for this is comparatively high teacher salaries. At USD 47 855 for a primary school teacher with minimum training and 15 years of experience, Japan comes 6th among OECD countries behind Germany, Korea, Luxembourg, Scotland and Switzerland. A teacher working in lower secondary education who has minimum training and 15 years of experience earns on average USD 47 855, putting Japan in 5th place behind Germany, Korea, Luxembourg, Scotland and Switzerland. At this level, Japan is even in the 4th rank for top salaries (that are reached after more than 30 years of experience (Table D3.1). <p><i>The annual instruction time is slightly below the OECD</i></p>

<p>USD 88 000 in Luxembourg.</p> <ul style="list-style-type: none"> • The average class size in primary education is 22 students per class, but varies between countries from 33 in Korea to less than half that number in Luxembourg and the partner economy the Russian Federation. From 2000 to 2005, the average class size did not vary significantly, but the differences in class size between OECD countries seem to have diminished. Class size tends to have decreased in countries that had had relatively large class sizes (for example, in Japan, Korea and Turkey) whereas class size tends to have increased in countries with relatively small class sizes (for example, Iceland) (see 2000 data in Table D2.4 on the web only). • The number of students per class increases by an average of nearly three students between primary and lower secondary education, but ratios of students to teaching staff tend to decrease with increasing levels of education due to more annual instruction time, though this pattern is not uniform among countries. • In primary and secondary education, OECD countries spend 91% on current expenditure of which 63.5% is for the compensation of teachers, 15.5% for the compensation of other staff, and 19.9% for other current expenditure. At the tertiary level of education, 89.3% is devoted to current expenditure, of which 42.7% is for the compensation of teachers, 23.6% for the compensation of other staff, and 33.8% for other current expenditure (Table B6.2). 	<p><i>average ...</i></p> <ul style="list-style-type: none"> • The annual compulsory instruction time for a 7-to-8-year-old varies between 990 in Italy and 530 in Finland, with the OECD average level being 769 hours. The corresponding Japanese time is, at 707 hours, below the average. This situation is similar at the secondary level of education (Table D1.1). As well as in more than a third of OECD countries and partner economies, intended instruction time is fully compulsory for all age groups between 7 and 14 years in Japan. However, these figures do not take into account the large number of hours of instruction outside the regular curriculum that students in Japan receive. <p><i>...the teaching load for teachers is comparatively low while teacher's total working time is high.</i></p> <ul style="list-style-type: none"> • The net teaching time for Japanese primary school teachers is, at 578 hours per year, far below the OECD average of 803 hours and the lowest number of teaching hours among OECD countries and partner economies. However, the total statutory working time of Japanese primary school teachers is, at 1960, the highest of all 17 countries with comparable data and significantly above the OECD average of 1695 hours (Table D4.1). Japanese primary school teachers spent the comparatively lowest part of their working time actually teaching (Chart D4.3). This situation is similar at the secondary level of education (Table D4.1).
<p><i>Private sources of funding for education are becoming increasingly important.</i></p> <ul style="list-style-type: none"> • On average, over 90% of primary and secondary education in OECD countries, and nowhere less than 80% (except in Korea and in the partner economy Chile), is paid for publicly. However, in tertiary education the proportion funded privately varies widely, from less than 5% in Denmark, Finland and Greece, to more than 50% in Australia, Japan and the United States and in partner economy Israel, and to above 75% in Korea and in the partner economy Chile. • In all countries for which comparable data are available, for all levels of education combined, public funding increased between 1995 and 2004. However, private spending increased even more in nearly three-quarters of these countries. Nevertheless, in 2004, on average 87% of expenditure, for all levels of education combined, was still from public sources. 	<p><i>An above-average share of spending on education comes from private sources in Japan and...</i></p> <ul style="list-style-type: none"> • The relative proportions of public funding for educational institutions range from 97% or more in Finland, Portugal and Sweden to 60% in Korea and 51% in partner economy Chile and average 87% in OECD countries. Japan's funding was 74.2% public and 25.8% private in 2004 (Table B3.1), putting it in the 4th place ranked by the highest private proportion after Australia, the United States and partner economy Chile (Chart B3.3). Note that private spending originates both in households and other private entities and can go to private as well as public institutions. <p><i>...the private share is especially high for tertiary education.</i></p> <ul style="list-style-type: none"> • Looking at the different levels of education separately gives a more precise picture. Spending on educational institutions providing pre-primary education is 50% private in Japan, significantly above the OECD average of 20% (Table B3.2a). Spending on educational institutions providing primary and secondary education is

<ul style="list-style-type: none"> • The share of tertiary spending from private sources rose substantially in some countries between 1995 and 2004, but this was not the case at other levels of education. • On average among the 18 OECD countries for which trend data are available, the share of public funding in tertiary institutions decreased slightly between 1995 and 2000, as well as every year between 2001 and 2004. However, in general the increase of private investment has not displaced public financing, but rather complemented it. • In tertiary education, households cover the majority of all private expenditure in all countries with available data, except Greece, Hungary and Sweden. Private expenditure from other entities than households is still significant, representing 10% or more in Australia, Hungary, Italy, Korea, the Netherlands, Sweden, the United Kingdom and the United States, and the partner economy Israel. 	<p>8.7% private in Japan, slightly above the OECD average of 8.3% (Table B3.2a). The difference is even more pronounced when considering spending on tertiary education, with a private share of 58.8% against an OECD average of 24.3% (Table B3.2b).</p>
<p><i>OECD countries where students are required to pay tuition fees can nevertheless have also large access to tertiary education.</i></p> <ul style="list-style-type: none"> • OECD countries where students are required to pay tuition fees and can benefit from particularly large public subsidies do not show lower levels of access to full-length, theory-based bachelor and masters degree university-level programmes, compared to the OECD average. For example, Australia (82%) and New Zealand (79%) have one of the highest entry rates to tertiary-type A education and the Netherlands (59%) and the United States (64%) are above the OECD average. The United Kingdom (51%) is just below the OECD average (54%), although entry to tertiary-type A education increased by 4 percentage points between 2000 and 2005. 	<p><i>But in Japan where high tuition fees combine with a relatively low proportion of students benefiting from public subsidies, access to tertiary-type A education remains below the average.</i></p> <ul style="list-style-type: none"> • Low access to tertiary-type A education in Japan may be linked to the quite large proportion of students entering tertiary-type B education, but also to the high level of tuition fees charged by tertiary-type A public institutions (about USD 3900 on average), even if some students who excel academically but have difficulty in financing their studies may benefit from reduced tuition and/or admission fees or be exempt from paying these fees entirely. • Despite high tuition fees, only one-quarter of students can benefit from public loans. This may be partially explained by the fact that public expenditure as a percentage of GDP allocated to tertiary education is among the lowest in OECD countries and that tax revenue of income as a percentage of GDP is also among the lowest in OECD countries. • The support for students also depends on the amount they can receive in public loans. In Japan, the average annual gross amount of public loan available reaches about USD 5 950 (5th highest level among countries with comparable data).
<p>NOTES</p> <ul style="list-style-type: none"> • Educational attainment” is defined as the highest grade completed within the most advanced level attended in the educational system of the country where the education was received. Some countries may also find it useful to present data on educational attainment in terms of the highest grade attended. • “Non-formal education” is defined as any organised and sustained educational activities that are not typically provided in the system of schools, colleges, universities and other formal institutions that constitutes a continuous 	

ladder of full-time education for children and young people. Non-formal education may take place both within and outside educational institutions, and cater to persons of all ages. For detailed definitions, see Indicator C5 in *Education at a Glance 2007*.

- “Pre-primary education” is defined as the initial stage of organised instruction, designed primarily to introduce very young children to a school-type environment, that is, to provide a bridge between home and a school-based atmosphere. They are centre or school-based, designed to meet the educational and developmental needs of children at least three years of age, and have staff qualified to provide an educational programme for children.
- “Primary education” usually begins at ages five, six or seven and generally lasts six years in OECD countries. Programmes at the primary level generally require no previous formal education, although it is becoming increasingly common for children to have attended a pre-primary programme before entering primary education. The boundary between pre-primary and primary education is typically the beginning of systematic studies characteristic of primary education, i.e. reading, writing and mathematics. It is common, however, for children to begin learning basic literacy and numeracy skills at the pre-primary level.
- “Lower secondary education” is defined as schooling between the ages of 11 and 13. It generally continues the basic programmes of the primary level, although teaching is typically more subject-focused. Lower secondary education may either be “terminal” (i.e. preparing students for entry directly into working life) and/or “preparatory” (i.e. preparing students for upper secondary education). This level usually consists of three years of schooling in OECD countries.
- “Upper secondary” education corresponds to the final stage of secondary education in most OECD countries. Instruction is often more organised along subject-matter lines. The entrance age to this level is typically 15 or 16 years.
- “Post-secondary non-tertiary education” is defined as programmes straddling the boundary between upper secondary and post-secondary education from an international point of view, even though they might clearly be considered upper secondary or post-secondary programmes in a national context. Although their content may not be significantly more advanced than upper secondary programmes, they serve to broaden the knowledge of participants who have already gained an upper secondary qualification. The students tend to be older than those enrolled at the upper secondary level.
- “Tertiary-level education” is defined as higher education (HE). Indicators in *Education at a Glance 2007* cover both the current performance of the HE system and the proportion of the adult population (25-to-64-year-olds) who have attained HE qualifications. Tertiary programmes are generally divided by type of course: “tertiary-type A” (largely theory-based and designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine, dentistry or architecture) and “tertiary-type B” (typically shorter and focused on practical, technical or occupational skills for direct entry into the labour market). “Graduation rate” is defined as the ratio of tertiary graduates to the population at typical age of graduation.
- “Statutory salaries”. The data on teacher pay are based on statutory pay (pay scales) in 2004 and do not attempt to capture actual average pay which will include discretionary allowances for extra duties as well as reflecting the age structure of the teacher labour force. Furthermore, the figures are for classroom teachers and so do not reflect the pay of teachers promoted to heads and deputy headships. They also do not include bonuses and supplementary payments, which are considerable in some countries.