

# *Education at a Glance 2008*

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## *OECD Briefing Note For Sweden*

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 the provision of education, and help to mobilise resources to meet rising demands.

In response to this need, the OECD 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 Sweden** with **global trends among OECD countries**, under the headings: quantity and quality challenges, resource and efficiency challenges and equity challenges.

*Education at a Glance 2008*, as well as its executive summary and the underlying data can be downloaded free of charge at [www.oecd.org/edu/eag2008](http://www.oecd.org/edu/eag2008)

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## **QUANTITY AND QUALITY CHALLENGES**

*The decades-old expansion in educational participation and outputs continues – and at a pace that outstrips many past projections. With completion of upper secondary education close to universal in most OECD countries, the greatest recent expansion has come in the tertiary sector. While, in 1995, 37% of a cohort went into university-level programmes it is now 57%, on average across OECD countries. It is hard to predict the future from past trends. Will the expansion of tertiary education continue at this rapid pace, driven by an ever-rising demand for the highly skilled? Or will it level off and will relative earnings decline? At the beginning of the 20th century, few would have predicted that, among OECD countries, upper secondary education would be largely universal by the end of the century. So it is equally difficult to predict how tertiary qualifications will have evolved by the end of the 21st century. **Education at a Glance 2008** provides a profile of educational qualifications in populations as well as indicators on trends in the quantity and quality of the output of educational institutions. For the first time, it also relates the qualifications that are produced by the education system to their actual deployment across occupational groups.*

### **Global trends**

***Education systems continue to expand at a rapid pace...***

- Tertiary attainment levels have increased substantially, for the first time reaching one-third of the cohort of 25-to-34-year-olds, on average across OECD countries. In France, Ireland, Japan and Korea, there is a difference of 25 percentage points or more in tertiary attainment between the older and younger age group (Table A1.3a). Between 1995 and 2006 alone, the university-level graduation rate rose, on average across countries, from 20 to 37% (Table A3.2) and more than half of those at the typical age of graduation completed their first tertiary-type A degree in Australia, Finland, Iceland and New Zealand (Table A3.1).
- The social sciences, business and law are the major educational fields in most countries. Across OECD countries, they constitute 28% of the overall tertiary-type A attainment in the population. On average, there are 3.6 times as many individuals with degrees in these fields in the younger cohort entering the labour market than in the older one nearing retirement age. By contrast, in the field of education, this ratio is close to 1 in the OECD countries (Table A1.5).

***...and current entry rates suggest that these trends will continue.***

- Entry rates in tertiary-type A education increased substantially between 1995 and 2006, by 20 percentage points on average in OECD countries. Between 2000 and 2006, growth exceeded 10 percentage points in 11 of the 25 OECD countries for which data are available. In 2006, in Australia, Finland, Hungary, Iceland, New Zealand, Norway, Poland, the Slovak Republic and Sweden, and the partner country the Russian Federation, it is estimated that 65% or more of

### **Key results for Sweden**

***39% of 25-to-34-year-olds in Sweden have now attained tertiary education.***

- For tertiary education, Sweden's attainment level for 25-to-34-year olds stands at 39%, has grown by 2 percentage points year-on-year and is well above the OECD average of 33%. Sweden is, however, behind the top 9 countries where more than 40% of the younger cohort has obtained tertiary education. Considering 55-to-64-year-olds, Sweden again has a score above the OECD average (25% and 19% respectively) (Table A1.3a).

***Sweden continues to produce an above-average tertiary education graduation rate.***

- Graduation from traditional universities stands at 40.6%, above the OECD average of 37.3% (Table A3.1). The growth in tertiary education graduation rates has risen more sharply in Sweden than across the OECD as a whole. The graduation rate for Sweden was 38% in 2005 and 41% in 2006. Growth across the OECD area, however, remains fairly static with 36% in 2005 and 37% in 2006. Only the Czech Republic, Iceland, Slovak Republic and Turkey surpassed Sweden on this measure in 2006.
- Sweden is together with Germany, Portugal, Switzerland and the United Kingdom; the countries that graduation rates from advanced research programmes (PhD or equivalent) exceed 2 percent (Sweden 2.2%). Sweden thus holds a position as one of the countries with the highest graduation rates in advanced research programmes. (Table A3.1).

***Although not all students in Sweden who enter tertiary education will graduate....***

- At 76%, entry rates for tertiary-type A programmes in Sweden remain among the highest in the OECD area (Table A2.5). In 2006 the rate of completion for tertiary-

<p>young adults will enter tertiary-type A programmes. In almost all countries, the majority of new entrants choose to follow tertiary programmes in the field of social sciences, business, law and services (Tables A2.4, A2.5 and A2.6).</p> <ul style="list-style-type: none"> <li>Overall, females represent 54% of new entrants in tertiary education in OECD countries. However, the breakdown by gender varies considerably according to the field of education. In the fields of health and welfare, the arts and humanities, and education between 68 and 75% of new entrants are women. The proportion of women choosing science studies (including life sciences, physical sciences, mathematics, computing, engineering, manufacturing and construction and agriculture) ranges from less than 25% in Japan, the Netherlands, Spain and Switzerland and the partner country Chile, to more than 35% in Denmark, Iceland, Italy and New Zealand (Table A2.6).</li> </ul>	<p>type A programmes was 69%, similar to the average across OECD countries (Table A4.1). However, in Sweden, completion rates at a tertiary level tell only part of the story as rates are influenced by students who complete all courses needed for a degree but do not graduate and also because universities provide courses for individuals who are entering higher education as adults (for continuing or further education) and who do not study towards a degree.</p> <p><i>More females than males enter tertiary education in Sweden.</i></p> <ul style="list-style-type: none"> <li>Following trends across the OECD more females enter tertiary education in Sweden (56%; OECD average 54%) (Table A2.6).</li> <li>Females are strongly represented in health and welfare programmes (80%) and humanities/arts (67%) but Sweden also has above OECD average female entrance rates to subjects such as engineering/manufacturing/construction (25% against OECD average of 22%). In neighbouring Denmark, 35% of females enter these fields representing the highest females' entry rates to traditionally male dominated subject fields (Table A2.6).</li> </ul>
<p><i>This expansion relates to strong labour-market outcomes for those with advanced qualifications.</i></p> <ul style="list-style-type: none"> <li>Earnings increase with each level of education. Those who have attained upper secondary, post-secondary non-tertiary or tertiary education enjoy substantial earnings advantages compared with those of the same gender who have not completed upper secondary education (Table A9.1a). In 15 out of 21 countries with available data, the earnings premium for those with tertiary education increased during the last decade, often despite massive growth in tertiary participation. In Germany, Hungary, and Italy this increase has been between 30 and 40 percentage points (Table A9.2a).</li> <li>On average across countries, completion of tertiary education yields a 12 and 11% return for males and females, respectively, and returns are above 22% for males in the Czech Republic, Poland and Portugal. The rewards for tertiary education are relatively small in Germany, Norway, Spain, and Sweden where the rate of return ranges from 5 to 8% (Table A10.2). In most countries, the returns to investment in tertiary education in mid-career are lower, but still substantial enough to motivate the investment without government intervention (Table A10.4).</li> </ul>	<p><i>The earning advantage of completing higher education is low compared to other countries...</i></p> <ul style="list-style-type: none"> <li>In Sweden, the earnings advantage for the tertiary educated aged 25-to-64 years over individuals with an upper secondary qualification is 26% which is the third lowest earnings differential among countries with data on this indicator. This situation is common to other Nordic countries such Denmark (25%) and Norway (29%) and is in strong contrast with countries such as Slovenia (98%) and Hungary (119%) (Table A9.1a).</li> </ul> <p><i>...and the earnings premium has declined slightly over time in Sweden.</i></p> <ul style="list-style-type: none"> <li>The earnings advantage for tertiary education compared to upper secondary education in the age group 25-to-64 years in Sweden was 29% in 1997 and 26% in 2005 (Table A9.2a). It is difficult to determine whether this is an indication of weakening demand, whether these figures reflect the fact that younger tertiary educated individuals with relatively low starting salaries have entered the labour market or whether the figures reflect other changes on the labour market</li> </ul> <p><i>Despite large public subsidies, the private rates of return for tertiary education are low in Sweden...</i></p> <ul style="list-style-type: none"> <li>The low earnings advantage of obtaining a university level degree also manifests itself in relatively low</li> </ul>

<ul style="list-style-type: none"> <li>• Employment rates rise with educational attainment. With few exceptions, the employment rate for graduates of tertiary education is markedly higher than the rate for upper secondary graduates. For males, the gap is particularly wide between upper secondary graduates and those without an upper secondary qualification (Table A8.1a).</li> <li>• Those with low educational attainment are both less likely to be labour force participants and more likely to be unemployed. Differences in employment rates between males and females are also wider among less educated groups.</li> <li>• The labour-market penalties for low levels of education are particularly high for females. The chance of being employed is 23 percentage points higher for males than for females among those without upper secondary qualifications but falls to 10 points for the most highly qualified (Tables A8.1a and A8.2a).</li> <li>• Employment rates tend to drop long before the stipulated retirement age in most countries. On average, employment rates among 55-to-64-year-olds are approximately 20 percentage points below those of the total working-age population (25-to-64-year-olds). However, employment rates increase with educational attainment in most countries, and in all countries except Iceland, tertiary attainment provides an important employment advantage at an older age. The advantage is particularly large in the Czech Republic, Italy, Luxembourg and the Slovak Republic (Table A8.4).</li> </ul>	<p>private rates of return for investing in tertiary education. The private rates of return to tertiary education in Sweden are around 5% for both males and females compared with the OECD average rates of 12% for males and 11% for females (Chart A10.1). Moreover, Sweden alongside Spain, the United Kingdom and the United States are the only countries where the rate of return to tertiary education (for both males and females) is lower than for upper-secondary or post-secondary non-tertiary education (Chart A10.1). The low returns to tertiary education is mainly a consequence of a low earning premium for higher educated individuals and a progressive tax system that reduces the incentives to invest in higher education.</p> <p><i>... although females in the younger cohort are at an advantage over males.</i></p> <ul style="list-style-type: none"> <li>• Tertiary education enhances earnings relative to upper secondary education more for females than males in the 25-to-34-year-old age bracket and the opposite is true for the 25-to-64 age group (Table A9.1a) which may demonstrate that the young women in this generation are reaping the rewards of a job market which is increasingly open to highly educated females workers.</li> </ul> <p><i>The benefits of higher education in Sweden are instead visible in improved employment prospects.</i></p> <ul style="list-style-type: none"> <li>• Employment rates for those with tertiary education is 6 percentage points higher than those with upper-secondary and post-secondary non-tertiary education and 15 percentage points higher than those without upper secondary education (Table A8.1b web). This difference is more marked for females than for males (Table A8.1a).</li> </ul>
<p><i>There are also marked shifts towards more skilled jobs in labour markets.</i></p> <ul style="list-style-type: none"> <li>• Across OECD countries between 1998 and 2006, there was a marked shift from semi-skilled jobs to skilled jobs, with an increase of almost 4 percentage points in skilled occupations and a close to 4 percentage point decline in semi-skilled occupations. In most countries, the decline has not been at the very low end of the skills distribution but among semi-skilled jobs, with the proportion of the population working in unskilled occupations remaining substantially unchanged (Table A1.6).</li> </ul>	<p><i>In line with shifts across the OECD, Sweden has seen an increase in skilled occupations...</i></p> <ul style="list-style-type: none"> <li>• The proportion of the workforce in skilled occupations in Sweden has increased from 41% to 43% between 1998 and 2006 (the OECD average was 36% in 1998 and 40% in 2006) and there has been a drop of one percentage point in the proportion in both semi-skilled and unskilled occupations (Table A1.6).</li> </ul> <p><i>...lead notably by an increase in professional occupations.</i></p> <ul style="list-style-type: none"> <li>• Broken down by different occupations, examples of shifts include a 2 percentage point increase in the proportion of workers in professional occupations (16% in 1998 and 18% in 2006); whereas there is a decline in the proportions of workers in clerk work and crafts and related trades (Table A1.6).</li> </ul>

***The proportion of skilled jobs is generally larger than the potential supply of tertiary graduates...***

- In OECD countries, the proportion of skilled jobs in the economy is generally larger than the potential supply of tertiary educated individuals. For countries in which work-based learning is central to occupational advancement, this difference is large. A broader initial skill base might require additional investment in higher education. In a few countries, tertiary attainment matches or marginally exceeds the proportion of skilled jobs, so that further expansion of higher education will to some extent depend on the growth of skilled jobs in the coming years (Tables A1.3a and A1.6).

***...but more recently the growth in the proportion of people with tertiary qualifications has generally been faster than the growth in skilled jobs, suggesting that the gap is closing.***

- The increase in skilled jobs has been met and exceeded in most OECD countries by increases in the proportion of the population with tertiary attainment. However, in most countries, there are still substantially more skilled jobs than tertiary educated individuals. On average, across OECD countries, 69% of all those with a tertiary type 5B qualification and 85% of those with a tertiary 5A/6 qualification have skilled jobs. However the matching of higher education to skilled jobs varies substantially among countries. Those with a tertiary 5A/6 qualification in Denmark, Finland, Luxembourg and the partner country Slovenia do substantially better in finding a skilled job given the labour market conditions for those with tertiary education (Tables A1.6, A1.7 and A3.2).

***The internationalisation of tertiary education is proceeding rapidly.***

- In 2006, over 2.9 million tertiary students were enrolled outside their country of citizenship. This represented a 3% increase from the previous year in total foreign student intake reported to the OECD and the UNESCO Institute for Statistics (Box C3.1).
- Student mobility – *i.e.* 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 across OECD countries. International students are most numerous in tertiary enrolments in Australia, Austria, New Zealand, Switzerland and the United

***The number of skilled jobs to be filled still outnumbers the supply of tertiary educated individuals suggesting that further expansion of tertiary education may still be an option in Sweden.***

- There is a 5 percentage points difference between the proportion of 25-to-64-year-olds in skilled jobs and the proportion of 25-to-64-year-olds with tertiary education in Sweden (Tables A1.3a and A1.6).
- 89% of individuals with a tertiary-type A or advanced research qualification are in skilled jobs in Sweden. This is 4 percentage points higher than the OECD average and is similar to the situation in Germany, Switzerland and Portugal. In neighbouring Denmark and Finland, 91% and 92% of the tertiary-type A educated, respectively are in skilled jobs. In Slovenia the match is an impressive 99% (Table A1.7).
- In Sweden 76% of those with tertiary-type B education are in skilled jobs, above the OECD average of 69%. A larger proportion of tertiary-type B graduates than average are technicians and associate professionals (49% against the OECD average of 32%), the second highest proportion among OECD countries after the Czech Republic (50%) (Table A1.7). It should be noted, however, that those with tertiary-type 5B education form a relatively small group in Sweden.

***Sweden holds its global education market share by providing English programmes and not charging any tuition fees.***

- The share of the international education market is relatively modest for Sweden which receives 1.4% of all foreign students enrolled in tertiary education. Compared with the big destinations for foreign students; the United States (20%) and the UK (11%), Sweden still places itself well ahead of its Nordic neighbours (Chart C3.2; Table C3.8 on the web).

***There has been a slight year-on-year increase in enrolments of foreign students in Sweden...***

- In 2006, international students comprised 5% of all tertiary enrolment in Sweden (Table C3.1), up 0.6 percentage points from 2005, and 1 percentage point

<p>Kingdom (Table C3.1).</p> <ul style="list-style-type: none"> <li>• France, Germany, the United Kingdom and the United States receive 49% of all foreign students worldwide. The largest absolute numbers of international students from OECD countries are from France, Germany, Japan and Korea. Students from China and India comprise the largest numbers of international students from partner countries (Chart C3.2).</li> <li>• International students make up 15% or more of the enrolments in tertiary education in Australia and New Zealand and more than 20% of enrolments in advanced research programmes in Belgium, Canada, New Zealand, Switzerland, the United Kingdom and the United States (Table C3.1).</li> <li>• 30% or more of international students are enrolled in sciences, agriculture or engineering in Finland, Germany, Hungary, Sweden, Switzerland and the United States (Table C3.5).</li> </ul>	<p>since 2004. The largest increases in market share took place in Australia, France, Japan and New Zealand (Chart C3.3 and Tables C3.7 on the web).</p> <ul style="list-style-type: none"> <li>• Most international students in Sweden are enrolled in social sciences, business and law (30.4%) and in engineering and manufacturing/construction programmes (24.1%) (Chart C3.4 and Table C3.5).</li> </ul> <p><i>...and Sweden can potentially attract a lot more foreign students.</i></p> <ul style="list-style-type: none"> <li>• Apart from English speaking countries, Sweden together with Denmark, Finland, and Netherlands are the non-native English speaking countries which provide many education programmes in English. Furthermore, Sweden, like other Nordic countries, does not charge any tuition fees for international students in public universities.</li> </ul>
<p><i>New analyses of PISA data provide a first picture of school education from the perspective of parents.</i></p> <ul style="list-style-type: none"> <li>• Among the 10 OECD countries with available data, on average, 77% of parents “strongly agreed or agreed” that standards of achievement were high in their child’s school. On average, their children scored 20 score points higher on the PISA 2006 assessment than students whose parents “disagreed or strongly disagreed” with that statement. Much of the advantage remains when taking into account socio-economic factors (Table A6.2).</li> <li>• An average of 79% of parents reported being satisfied with the disciplinary atmosphere in their child’s school and 85% felt that the school did a good job of educating students. In both cases, their children had a performance advantage of 12 score points on average (Table A6.2b).</li> <li>• On average, 88% of parents “strongly agreed or agreed” that their child’s teachers seemed competent and dedicated, but the relationship to student performance was inconsistent across countries, with an average advantage of 7 score points (Table A6.3a).</li> </ul>	<p>There is no data available for Sweden on these indicators.</p>
<p><i>For the first time, the indicators compare approaches to monitoring school standards.</i></p> <ul style="list-style-type: none"> <li>• A total of 22 OECD and partner countries undertake student examinations and/or assessments and 17 require schools to be evaluated (either self-evaluations and/or inspections by an external body)</li> </ul>	<p><i>Considerable emphasis is placed on assessment and evaluation of students and schools in Sweden</i></p> <ul style="list-style-type: none"> <li>• Although no national examinations are carried out in Sweden, national periodical assessments are compulsory for lower secondary programmes. This assessment is administered to 9-year-old students and subjects include</li> </ul>

<p>at regular intervals. Student assessments (evaluations without civil effect for the student) are practised in 17 OECD and partner countries, whereas national examinations (with a civil effect for the student) are practised in 10 OECD and partner countries (Tables D5.1 and D5.2).</p> <ul style="list-style-type: none"> <li>• School self-evaluations are required in 14 countries, generally on an annual basis (Table D5.6).</li> <li>• School inspections are required in 14 countries, generally once every three years (Table D5.5). Although school self-evaluations are held more often than school inspections, evaluations by school inspectorates appear in general to have more influence on schools and teachers in terms of the implications of the evaluation and the accountability structure (Tables D5.5 and D5.6).</li> <li>• Both school evaluation and student performance measures are mainly used to provide performance feedback to schools (Tables D5.3 to D5.6). In general, they have relatively little influence on school financing and other financial implications such as changes to the school budget, provision of rewards or sanctions for schools, or remunerations and bonuses received by teachers (Tables D5.3 to D5.6).</li> <li>• In a larger number of countries, the influence of school evaluations is greater than student examinations for the performance appraisals of schools (13 countries, compared to 7 for student examinations), for the appraisal of the performance of school management (9 countries, compared to 1 for student examinations) and the appraisal of the performance of individual teachers (4 countries, compared to 1 for student examinations) (Tables D5.3 to D5.6).</li> </ul>	<p>mathematics and national language/language of instruction (Table D5.2).</p> <ul style="list-style-type: none"> <li>• An inspection of lower-secondary schools is carried out in Sweden at intervals of six years (3 years+) and the results are made publicly available. These evaluations are considered to have high influence upon the performance appraisal of the school management but low influence on the performance appraisal of teachers. Furthermore school inspections have limited influence on the remuneration and bonuses received by teachers (Table D5.5).</li> </ul> <p><i>The importance of self-evaluations in Swedish schools demonstrates the autonomy that individual schools have for decision making.</i></p> <ul style="list-style-type: none"> <li>• Self-evaluations of Swedish schools are carried out once a year and are considered to have a high influence upon the performance feedback provided to schools and a moderate influence on appraisal of school management (Table D5.6).</li> <li>• Sweden is the only OECD country where this self-evaluation is considered to have a high degree of influence on school budget. Sweden is also the only country where the data are used for the creation of comparative tables which are made public (Table D5.6).</li> <li>• However, the evaluation has a limited influence on the performance appraisal of individual teachers and the remuneration of teachers (Table D5.6).</li> </ul>
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## **RESOURCE AND EFFICIENCY CHALLENGES**

*Meeting the demand for more education while improving quality is bound to create pressures for current levels of spending to be maintained or increased and to improve the efficiency of spending on education. Recent years have already seen considerable rises in spending levels, both in absolute terms and as a share of public budgets. The total amount of funds allocated to educational institutions across all levels of education rose in all countries with available data over the last decade, and by 19% on average in real terms between 2000 and 2005 alone. By 2005, OECD countries were spending 6.1% of their collective GDP on education at all levels, of which 86% came from public sources and all but 7 of the 28 OECD countries spent at least 5%. Another visible indication of the efforts made by governments can be found in the fact that from 1995 to 2005, public expenditure on education grew by more than one percentage point as a proportion of all public spending – from 11.9% to 13.2% in 2005. Education spending rose at least as fast as public spending in other sectors in all countries except Canada, France, Hungary, Portugal and Switzerland.*

*Alongside the increase in public spending on education, there has also been a search for new sources of funding to accommodate the rapid growth in student numbers (particularly at the tertiary level) and to increase the resources available to educational institutions. Although 86% of spending on education still originates from public sources for all levels of education combined, private spending increased more rapidly than public spending between 1995 and 2005 in nearly three-quarters of the countries examined. In some, the proportion of private funding of tertiary educational institutions is high enough to challenge the view that tertiary education is solely a state responsibility. In fact, this view is gradually being replaced by the perception that, given the shared public and private returns that education brings, costs and responsibilities for its provision should also be shared between those who directly benefit and society at large (i.e. private households and businesses as well as governments), at least at the tertiary level of 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. This edition of Education at a Glance provides a first picture of the spending choices that different countries are making.*

<i>Global trends</i>	<i>Key results for Sweden</i>
<p><i>OECD countries as a whole spend USD 8 553 per student annually between primary and tertiary education: USD 6 173 per primary student, USD 7 736 per secondary student and USD 15 559 per tertiary student. These expenditures continue to rise in real terms.</i></p> <ul style="list-style-type: none"> <li>• Expenditure on educational institutions per primary, secondary and post-secondary non-tertiary student increased in every country and on average by 35% between 1995 and 2005 during a period of relatively stable student numbers.</li> <li>• The pattern is different at the tertiary level where spending per student has fallen in some cases, as expenditure has not kept up with the expansion in student numbers. However, from 2000 to 2005, expenditure on educational institutions per tertiary student increased by 11 percentage points on average in OECD countries after remaining stable from 1995 to 2000. Only Australia, Austria, Denmark, Greece, Iceland, Mexico, Poland, Portugal, Spain, Switzerland and the United Kingdom saw a larger increase in expenditure on educational institutions per tertiary student than in GDP per capita (Tables B1.4 and B1.5).</li> <li>• Seven out of the 11 countries in which student enrolments in tertiary education increased by more than 20 percentage points between 2000 and 2005 have increased their expenditure on tertiary educational institutions by at least the same proportion over the period, whereas Hungary, Sweden and the partner countries Brazil and Chile did not (Table B1.5).</li> <li>• Teacher compensation cost per student at the upper secondary level varies from 3.9% of GDP per capita in the Slovak Republic (less than half the OECD average rate of 10.9%) to over five times that rate in Portugal (20.9%, nearly twice the OECD average). Four factors influence these trends – salary levels, the amount of instruction time for students, the amount of teaching time required of teachers and average class size – so that a given level of compensation cost per student can result from quite different combinations of the four factors. For example, in Korea and Luxembourg, the compensation cost per student (as a percentage of GDP per capita) is 15.5 and 15.2%, respectively, both notably higher than the OECD average. However, whereas in Korea higher than average teacher salary levels coupled with relatively large class sizes are the main influence</li> </ul>	<p><i>Spending per student in Sweden is well above the OECD average at all educational levels...</i></p> <ul style="list-style-type: none"> <li>• The resources invested in education need to be seen in relation to the number of students enrolled. Spending per students in Sweden across all levels (excluding pre-primary education) is USD 9 156, well above the OECD average of USD 7 527 and just up from spending reported in 2007 (USD 9 085). This ranks Sweden in sixth place in terms of overall spending per student behind Denmark (USD 10 108); Austria (USD 10 407); Norway (USD 10 980); Switzerland (USD 12 195) and the United States (USD 12 788) (Table B1.1a).</li> <li>• Per Student, Sweden spends just below the OECD average for pre-primary education (USD 4 852 against USD 4 888). It should, however, be noted that for pre-primary education in Sweden, the expenditure per student only includes the universal, free pre-school part of three hours per day.</li> <li>• The highest spender at this level is the United States (USD 8 301). On primary education, Sweden spends USD 7 532 per student against an OECD average of USD 6 252. Luxembourg spends by far the most per student at primary level (USD 14 079). In Sweden spending at secondary level is USD 8 198 against the OECD average of USD 7 804. Again Luxembourg out shadows all countries with a massive USD 18 845 spending per student at secondary level (Table B1.1a).</li> </ul> <p><i>...spending per student at tertiary level is high compared with other countries.</i></p> <ul style="list-style-type: none"> <li>• Sweden is ranked in third place for spending by student at tertiary level when including the R&amp;D at the universities (USD 15 946) behind Switzerland (USD 21 734) and the United States (USD 24 370) (Table B1.1a).</li> </ul> <p><i>...however in tertiary education, expenditure fails to keep up with expanding student numbers in Sweden.</i></p> <ul style="list-style-type: none"> <li>• Across all levels, expenditure per student in Sweden has risen by 13% between 2002 and 2005. Per student the change is 12% in this period, below the OECD average increase of 19%. Although there has been an increase in overall expenditure of 16% on tertiary education, the increase in the numbers of students has been larger at 21%, leaving expenditure per student at 5% less than five years previously.</li> </ul> <p><i>Lower teacher compensation in Sweden is driven by a</i></p>

<p>on this, in Luxembourg, relatively low class size is the main factor which results in such a high teacher compensation cost per student (as a proportion of GDP per capita) compared to the OECD average (Table B7.2).</p> <ul style="list-style-type: none"> <li>• In countries with the lowest compensation cost per student (as a percentage of GDP per capita) at the upper secondary level, low salary levels as a proportion of GDP is usually the main driver. This is the case in Iceland, Ireland, Norway, Poland, the Slovak Republic and Sweden. The main exception to this pattern is Mexico where teacher salary costs relative to GDP per capita are well above the OECD average but this is more than compensated for by large class sizes (Table B7.2).</li> <li>• In contrast, among countries with the highest levels of compensation cost per student (Portugal, Spain, Switzerland), no single factor determines this position, but rather each of the four factors act to increase costs to varying degrees (Table B7.2).</li> <li>• High spending per student cannot automatically be equated with strong performance by education systems. Spending per student up to the age of 15 in the Czech Republic is roughly one-third of, and in Korea roughly one-half of, spending levels in the United States. However, while both the Czech Republic and Korea are among the top ten performers in the PISA 2006 assessment of science achievement among 15-year-olds, the United States performs below the OECD average. Similarly, Spain and the United States perform almost equally well, but while the United States spends roughly USD 95 600 per student up to the age of 15 years, Spain only spends USD 61 860 (Table B7.1).</li> </ul>	<p><i>number of factors.</i></p> <ul style="list-style-type: none"> <li>• New analysis is available in this year's <i>Education at a Glance</i> on the comparison of salary costs per student (as a percentage of GDP per capita) at the upper secondary level, broken down into some of the factors that influence these comparisons.</li> <li>• In Sweden the compensation cost per student (as a percentage of GDP per capita) is 7.8%, below the OECD average of 10.8%. In Denmark the salary cost per student is 10.9%, in Finland, 8.1% and in Norway it is 9.4% (Table B7.2).</li> <li>• The calculated lower compensation costs for Sweden seem to be driven by a number of factors such as lower salaries, less instruction time for students, and below average teaching time in comparison to other OECD countries, but more notably, a lower class size than in other countries increases the compensation cost considerably in Sweden (Table B7.2). These figures need, however, to be interpreted with some caution as teaching time and class size are based on somewhat rough estimates.</li> </ul> <p><i>As is the case in other countries, the relationship between levels of expenditure and student performance is not straightforward in Sweden.</i></p> <ul style="list-style-type: none"> <li>• Cumulative expenditure per student (6-to-15 years old) explains merely 15% of the variation in mean PISA performance between countries.</li> <li>• The cumulative expenditure per student in Sweden is USD 74 319 (top tenth position in terms of cumulative spend). Countries with similar spending levels include Italy (USD 70 126) and Japan (USD 71 517). Yet these three countries perform differently in the PISA science exam (Italy, 475; Sweden, 503 and Japan, 531) (Table B7.1 and Chart B7.2).</li> </ul>
<p><i>OECD countries spend 6.1% of their collective GDP on educational institutions. However, the increase in spending on educational institutions between 1995 and 2005 fell behind growth in national income in nearly half of the 28 OECD countries for which data are available.</i></p> <ul style="list-style-type: none"> <li>• The highest spenders on educational institutions are Denmark, Iceland, Korea, the United States and the partner country Israel, with at least 7% of GDP accounted for by public and private spending on educational institutions, followed by Mexico and New Zealand with more than 6.5%. By contrast, seven out of 28 OECD countries for which data are available as well as three out of six partner countries spend less than 5% of GDP on</li> </ul>	<p><i>Sweden has shown consistent increases in educational investment in terms of a rising share of GDP being devoted to educational institutions.</i></p> <ul style="list-style-type: none"> <li>• The rise in Swedish investment in education is not only seen in absolute terms but also in terms of an increase of GDP devoted to education institutions. Spending on educational institutions increased from 6.0% of GDP in 1995, to 6.3% in 2000 and to 6.4% of GDP in 2005 placing Sweden in the top ten in terms of GDP allocation to educational institutions (Table B2.1)</li> <li>• In other Scandinavian countries the percentage of GDP expenditure on education institutions ranges from 5.7% in Norway, to 6.0% in Finland and to</li> </ul>

<p>educational institutions; in Greece and in the partner country the Russian Federation, the figure is 4.2 and 3.8%, respectively (Table B2.1).</p> <ul style="list-style-type: none"> <li>• Tertiary education accounts for nearly one-third of the combined OECD expenditure on educational institutions (2.0% of the combined GDP). In Canada and the United States, expenditure at this level reaches up to 40% of expenditure on educational institutions (Table B2.1). Relative to GDP, the United States spends over three times more on tertiary education than Italy and the Slovak Republic and nearly four times more than the partner countries Brazil and the Russian Federation.</li> <li>• On average across OECD countries, expenditure for all levels of education combined increased relatively more than GDP between 1995 and 2005. The increase in expenditure on educational institutions as a proportion of GDP exceeded 0.8 percentage points over this decade in Denmark, Greece, Mexico and the United Kingdom (Table B2.3).</li> </ul>	<p>7.4% in Denmark (Table B2.1).</p> <ul style="list-style-type: none"> <li>• In terms of breakdown by educational level, 1.6% of GDP was allocated to tertiary institutions and following OECD country averages, a higher 4.2% to primary, secondary and post-secondary non-tertiary institutions (Table B2.1).</li> <li>• Expenditure on educational institutions increased between 1995 and 2005 by 42%, and by 43% in tertiary education exceeding the increase in GDP in the same period (33%) (Table B2.3).</li> </ul> <p><i>While Sweden's share of capital spending is close to the OECD average for schools, it is almost half of the OECD average in tertiary institutions .</i></p> <ul style="list-style-type: none"> <li>• In the primary, secondary and post-secondary non-tertiary levels the percentage of total expenditure on capital costs is 7.4% (OECD average is 8.2%) whereas the percentage of capital costs at tertiary level is 4.3% against an OECD average of 9.5%.</li> </ul>
<p><i>In all countries, public funding on educational institutions increased between 1995 and 2005. However, private spending increased faster in nearly three-quarters of these countries.</i></p> <ul style="list-style-type: none"> <li>• On average over 90% of primary, secondary and post-secondary non-tertiary education in OECD countries, and other than in Korea, no less than 80%, is paid for publicly (Table B3.2a).</li> <li>• In tertiary education the proportion funded privately varies widely, from less than 5% in Denmark, Finland and Greece, to more than 40% in Australia, Canada, Japan, New Zealand, the United States and in the partner country Israel, and to over 75% in Korea and the partner country Chile. As with tertiary graduation and entry rates, the proportion of private funding can be influenced by the incidence of international students who form a relatively high proportion of the student body in Australia and New Zealand (Table B3.2b).</li> <li>• On average among the 18 OECD countries for which trend data are available, the share of public funding in tertiary institutions decreased slightly from 79% in 1995 to 77% in 2000 and to 73% in 2005. However, the increase in private investment has not displaced but complemented public financing, the amount of public funding has simply tended to increase at a lower rate (Table B3.2b).</li> <li>• In eight out of the 11 OECD countries with the largest increases in public expenditure on tertiary</li> </ul>	<p><i>In Sweden there has been an increase in the levels of both public and private funding but public sources remain dominant.</i></p> <ul style="list-style-type: none"> <li>• Levels of public funding have increased by 15% between 2000 and 2005, and similarly private funding has increased by 13% during the same period (Table B3.1).</li> <li>• In terms of relative split between public/private sources, there has been no change since 2000: taking all levels of education together, 97% of funding comes from public sources and 3% from private sources (OECD average split in 2005 is 85.5% public, 14.5% private) (Table B3.1).</li> <li>• Broken down by educational levels, pre-primary education is funded 100% from public sources (OECD average 80.2%). At primary, secondary and post-secondary non-tertiary education levels, the percentage of public funding is 99.9% (OECD average 91.5%). (Table B3.2a).</li> </ul> <p><i>However there is an increase in the proportion of private spending at the tertiary level when including R&amp;D.</i></p> <ul style="list-style-type: none"> <li>• At the tertiary level, public sources account for 88.2% of funding in Sweden (OECD average 73.1%) The 11.8% of funding that comes from private sources is substantially higher than proportions allocated in Denmark (3.3%) and Finland (3.9%) (Table B3.2b).</li> </ul>

<p>education between 2000 and 2005, tertiary institutions charge low or no tuition fees. The exceptions are Korea, the United Kingdom and the United States (Indicator B5).</p> <ul style="list-style-type: none"> <li>In tertiary education, households account for most private expenditure in most countries for which data are available. Exceptions are Canada, Greece, Hungary, the Slovak Republic and Sweden where private expenditure from entities other than households is more significant (Table B3.2b).</li> </ul>	<ul style="list-style-type: none"> <li>In tertiary education private funding increased by 3.1 percentage points in Sweden from 2000 to 2005 (8.7% to 11.8%) in line with 4.9 percentage point increase seen across the OECD (22% in 2000 to 26.9% in 2005). However, almost half of the annual expenditure on tertiary education goes to R&amp;D (USD 7 666) well above the OECD average (USD 3 391) (Table B1.b).</li> <li>Sweden is one of ten countries and one partner country where the proportion of expenditure on tertiary institutions covered by private entities other than households represents 10% or more of total expenditure (Table B3.2b).</li> </ul>
<p><i>On average, OECD countries devote 13.2% of total public expenditure to education, but values for countries range from 10% or below in the Czech Republic, Germany, Italy and Japan to more than 23% in Mexico.</i></p> <ul style="list-style-type: none"> <li>Between 1995 and 2005, education took a growing share of total public expenditure in most countries, and on average grew at a similar pace than GDP. Denmark, the Netherlands, New Zealand, the Slovak Republic, Sweden and the partner country Brazil saw the largest shifts in favour of education (Table B4.1).</li> <li>On average across OECD countries, 85% of public expenditure on education is transferred to public institutions. In two-thirds of OECD countries, as well as in the partner countries Brazil, Estonia and Slovenia, the share of public expenditure on education going to public institutions exceeds 80%. The share of public expenditure transferred to the private sector is larger at the tertiary level than at primary to post-secondary non-tertiary levels and reaches 26% on average among OECD countries for which data are available (Table B4.2).</li> </ul>	<p><i>In Sweden education received a slightly reduced share of the public budget between 2000 and 2005.</i></p> <ul style="list-style-type: none"> <li>The share of public expenditure devoted to education had increased in Sweden from 1995-to-2000 by 2.7 percentage points (10.7 % in 1995, 13.4% in 2005). However between 2000 and 2005 there was a slight decline of 0.8 of a percentage point (12.6% in 2005) (Table B4.1).</li> </ul>
<p><i>There are large differences among OECD countries in the average tuition fees charged by tertiary-type A public institutions, as well in how students pay for them.</i></p> <ul style="list-style-type: none"> <li>In eight OECD countries public institutions charge no tuition fees, but in one-third of countries public institutions charge annual tuition fees for national students in excess of USD 1 500. Among the EU-19 countries, only the Netherlands and the United Kingdom have annual tuition fees that represent more than USD 1 000 per full-time student; these relate to government-dependent</li> </ul>	<p><i>Sweden and its neighbours do not charge tuition fees for tertiary education.</i></p> <ul style="list-style-type: none"> <li>In Sweden as well as the other Nordic countries (Denmark, Finland and Norway), tertiary education is typically free of any tuition fees (Table B5.1).</li> <li>At the same time students in Sweden, as well as in the other Nordic countries, generally also enjoy generous government backed scholarships and loans for covering living expenses during their tertiary studies which makes higher education an attractive alternative for young adults despite the low returns to</li> </ul>

<p>institutions (Table B5.1a).</p> <ul style="list-style-type: none"> <li>• When tuition fees are charged, tertiary institutions are responsible for setting tuition fee levels in almost all countries. Only the Netherlands, Spain and Switzerland have levels of tuition fees set exclusively by educational authorities (at central, regional or local levels) at least for some of their tertiary institutions (Table B5.1d).</li> <li>• An average of 18% of public spending on tertiary education is devoted to supporting students, households and other private entities. In Australia, Denmark, the Netherlands, New Zealand, Norway, Sweden and the partner country Chile, public subsidies to households account for some 27% or more of public tertiary education budgets (Table B5.2).</li> <li>• Low annual tuition fees charged by tertiary-type A institutions are not systematically associated with a low proportion of students who benefit from public subsidies. In tertiary-type A education, the tuition fees charged by public institutions for national students are negligible in the Nordic countries and in the Czech Republic and are low in Turkey. And yet more than 55% of the students enrolled in tertiary-type A education in these countries can benefit from scholarships/grants and/or public loans. Moreover, Finland, Norway and Sweden are among the seven countries with the highest entry rate to tertiary-type A education.</li> <li>• OECD countries in which students are required to pay tuition fees and who can benefit from particularly large public subsidies do not show lower levels of access to tertiary-type A education than the OECD average. For example, Australia (82%) and New Zealand (79%) have among 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%) and partner country Chile (48%) are just below the OECD average (54%), although entry to tertiary-type A education increased by 4 and 6 percentage points, respectively, between 2000 and 2005 in these countries.</li> </ul>	<p>education (Table B5.2).</p> <ul style="list-style-type: none"> <li>• This also shows in the enrolment rates to tertiary-type A education which is at 76% in Sweden, substantially above the OECD average of 56% (Table A2.5). These generous terms are however paid back later in the working life as individuals are progressively taxed in accordance with their earnings.</li> </ul> <p><i>Students in Sweden also support their studies with public loans and grants.</i></p> <ul style="list-style-type: none"> <li>• 80% of students in Sweden benefited from both public loans and grants during 2004-2005. The annual gross amount available to a full-time student with low earnings from other sources was USD 4 940. During 2004-2005, 83% of students in Sweden graduated with a debt of USD 20 590, the highest in the OECD (Table B5.1e).</li> </ul>
<p><i>Instruction time, teachers' salaries, and student-teacher ratios vary widely among countries, which affects the level of expenditure per student.</i></p> <ul style="list-style-type: none"> <li>• 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:</li> </ul>	<p><i>Teacher salaries are below the OECD average in Sweden.</i></p> <ul style="list-style-type: none"> <li>• For primary level education, the starting salary of a teacher in Sweden following minimum training is USD 26 217. The OECD average is USD 27 828. For teachers of the lower secondary level, the salary is USD 26 739, again below the OECD average USD 30 047. At upper secondary level, teachers start</li> </ul>

<p>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.</p> <ul style="list-style-type: none"> <li>• Differences in teachers' salaries, along with other factors such as student-to-staff ratios (see Indicator D2), provide some explanation of the differences in expenditure per student (see Indicators B1 and B7).</li> <li>• Salaries of teachers with at least 15 years' experience at the lower secondary level range from less than USD 15 000 in Hungary and in partner countries Chile and Estonia to USD 51 000 or more in Germany, Korea and Switzerland, and exceed USD 90 000 in Luxembourg (Table D3.1).</li> <li>• Salaries for teachers with at least 15 years' experience in lower secondary education are over twice the GDP per capita in Korea, whereas in Norway, and in partner countries Estonia and Israel, salaries are 75% or less than the GDP per capita.</li> <li>• Teachers' salaries have risen in real terms between 1996 and 2006 in virtually all countries, with the largest increases in Finland, Hungary and Mexico (and in starting salaries in Australia) and in partner country Estonia. Salaries at the primary and upper secondary levels in Spain fell in real terms over the period, although they remain above the OECD average (Tables D3.1 and D3.2).</li> <li>• On average in OECD countries, upper secondary teachers' salaries per teaching hour exceed those of primary teachers by 44%; the difference is 5% or less in New Zealand, Scotland and the partner country Chile and is equal to or greater than 75% in Denmark and the Netherlands (Table D3.2).</li> </ul>	<p>with a salary of USD 28 369 which moves onto USD 34 086 after 15 years of experience (Table D3.1).</p> <ul style="list-style-type: none"> <li>• Compared with Nordic neighbours salaries are lower in Sweden and the pay scale is typically also less steep in comparison to the OECD. For example, the starting salary of a lower secondary school teacher is USD 26 639 in Sweden, compared with USD 30 793 in Finland, USD 31 256 in Norway and USD 35 368 in Denmark (Table D3.1).</li> <li>• There is no data available for Sweden on Indicator D3.2.</li> </ul> <p><i>Incentives are offered to teachers who perform well or who take on extra duties.</i></p> <ul style="list-style-type: none"> <li>• In Sweden, teacher incentives come in the form of adjustments (negotiated individually with the local municipality) to base salaries for years of experience as a teacher, taking on management responsibilities in addition to teaching duties as well as for teaching in remote areas. Additional incidental payments (overtime compensation) are made to Swedish teachers when teaching more classes or hours required than stipulated in contracts. Note that salaries for teachers in public schools are typically negotiated individually with the local municipality. On top of adjustments on base salary, the Czech Republic, Denmark, Iceland and most notably the Netherlands are some countries that offer a range of other yearly and incidental payments (Table D3.3a).</li> </ul>
<p><i>The average class size in primary education is slightly more than 21 students per class, but varies from 32 in Korea, to fewer than half that number in Luxembourg and the partner country the Russian Federation.</i></p> <ul style="list-style-type: none"> <li>• The average class size in lower secondary education is 24 students per class, but varies from about 30 or more in Japan, Korea and Mexico and the partner countries Brazil, Chile and Israel, to 20 or fewer in Denmark, Iceland, Ireland (public institutions), Luxembourg and Switzerland and the partner country the Russian Federation (Table</li> </ul>	<p>There is no data available for Sweden on Indicator D2.1 or D2.4.</p>

<p>D2.1).</p> <ul style="list-style-type: none"> <li>Between 2000 and 2006, differences in average class sizes among OECD countries have somewhat diminished. Class size tended to decrease in countries that had relatively large class sizes in 2000 (such as Japan, Korea and Turkey) whereas it increased in some of the countries with relatively small class sizes (such as Iceland) (Tables D2.1 and D2.4 available on- line).</li> </ul>	
<p><i>Students in OECD countries are expected to receive, on average, 6 907 hours of instruction between the ages of 7 and 14, of which 1 591 hours take place between ages 7 and 8, 2 518 between ages 9 and 11, and 2 798 between ages 12 and 14. The large majority of intended hours of instruction are compulsory.</i></p> <ul style="list-style-type: none"> <li>In OECD countries, 7-to-8-year-olds receive an average of 770 hours per year of compulsory instruction time and 796 hours per year of intended instruction time in the classroom. Those aged 9 to 11 receive about 40 compulsory hours more per year than 7-to-8-year-olds and those aged 12 to 14 receive just over 86 hours more per year than 9-to-11-year-olds (Table D1.1).</li> <li>On average across OECD countries, the teaching of reading, writing and literature, mathematics and science represents nearly 50% of the compulsory instruction time for 9-to-11-year-olds and 40% for 12-to-14-year-olds. For 9-to-11-year-olds, the proportion of compulsory curriculum devoted to reading, writing and literature varies widely from 13% in Australia to 30% or more in France, Mexico and the Netherlands (Table D1.2).</li> </ul>	<p><i>Instruction time in Sweden is estimated to be short</i></p> <ul style="list-style-type: none"> <li>The estimated amount of instruction or teaching time in Swedish is among the lowest in the OECD. In Sweden the average number of hours of total compulsory teaching time is formally stipulated to 741 hours which is substantially below the OECD average for most age groups (Table D1.1). However, note that intended instruction time per year for each school subject in Sweden is not regulated nationally, but decided on locally. Thus, intended instruction time for children aged 7-to-15-years has been roughly calculated by dividing the total number of stipulated hours per school subject during the nine years of compulsory education by 9. This may mean that in a given year the intended instruction time for certain schools subjects may be overestimated (e.g. reading and writing in Mother tongue or in the Arts) and underestimated in other grades and subjects (e.g. science).</li> </ul>
<p><i>The number of teaching hours in public lower secondary schools averages 717 hours a year but ranges from 548 hours in Korea to over 1 000 in Mexico (1 047) and the United States (1 080).</i></p> <ul style="list-style-type: none"> <li>The number of teaching hours in public primary schools averages 812 per year (9 more than in 2005), but ranges from less than 650 in Denmark, Turkey and the partner country Estonia to 1 080 in the United States (Table D4.1).</li> <li>The average number of teaching hours in upper secondary general education is 667, but ranges from 364 in Denmark to 1 080 in the United States (Table D4.1).</li> <li>The composition of teachers' annual teaching time, in terms of days, weeks and hours per day, varies considerably. For instance, while teachers in Denmark teach for 42 weeks per year (in primary</li> </ul>	<p><i>Although estimated instruction time is below the OECD average in Sweden, working time and total statutory working time are above the OECD average.</i></p> <ul style="list-style-type: none"> <li>Even though estimated instruction time is 741 hours in Sweden (for children aged between 6-to-18 years), working time required in school is 1360 hours across all school levels (OECD average for primary is 1 185; 1 214 for lower secondary and 1 159 for upper secondary) (Table D4.1).</li> <li>Similarly for total statutory time, Sweden has the same requirement across all school levels – 1 767 hours (OECD average for primary is 1 662; 1 615 for lower secondary and 1 654 for upper secondary) (Table D4.1).</li> </ul>

and secondary education) and teachers in Iceland for 35-36 weeks per year, teachers in Iceland have more total annual teaching time (in hours) than teachers in Denmark (Table D4.1).

- Regulations concerning teachers' working time also vary. In most countries, teachers are formally required to work a specific number of hours; in some, teaching time is only specified as the number of lessons per week and assumptions may be made on the amount of non-teaching time required per lesson (at school or elsewhere). For example, in Belgium (French Community), additional non-teaching hours at school are set at the school level; the government only defines the minimum and maximum number of teaching periods per week at each level of education.

## ***EQUITY CHALLENGES***

*On average across OECD countries, close to 8 out of 10 young adults have now a qualification at least at the upper secondary level of education, which was true for little more than half of 55 to 64-year-olds. In the last 11 years alone, the proportion of students graduating from upper secondary programmes has increased by seven percentage points in OECD countries. Despite this rapid progress towards universal upper secondary education **Education at a Glance 2008** also shows that in most countries a significant minority of individuals remain without baseline qualifications at the upper secondary level. In many countries, these individuals are seeing rapidly-deteriorating labour market prospects. **Education at a Glance 2008** also shows that access to education as well as educational success often remain closely tied to socio-economic conditions, which implies that countries do not fully capitalise on their human potential. **Education at a Glance 2008** provides a range of indicators on disparities in educational attainment and their labour-market consequences.*

### ***Global trends***

***In most OECD countries, virtually everyone now has access to at least 12 years of formal education and full enrolment (defined here as enrolment rates exceeding 90%) tends to begin between the ages of 5 and 6, but there is significant variability both at the beginning and ending of initial education.***

- At least 90% of students are enrolled in education in an age range spanning 14 or more years in Belgium, France, Germany, Hungary, Iceland, Japan, Norway and Spain. In contrast, Mexico and Turkey have enrolment rates exceeding 90% for only nine and six years, respectively; the corresponding figure for the partner country the Russian Federation is nine years (Table C2.1).
- Enrolment rates for children 4 years or younger range from less than 25% in Korea and Turkey to over 90% in Belgium, Denmark, France, Germany, Iceland, Italy, New Zealand, Spain and the United Kingdom (Table C2.1). Young children are more likely to be enrolled in the countries of the European Union than in other OECD countries (the enrolment rate for 3-to-4-year-olds averages 76.7% for the EU-19, while the OECD average is 69.4%) (Table C2.1).
- Enrolment rates for 15-to-19-year-olds increased on average from 74 to 81% from 1995 to 2006. In Belgium, Greece and Poland, and the partner country Slovenia, they reached more than 90% in 2006 (in Belgium they had already reached this level in 1995). The pattern is similar for 20-to-29-year-olds, an age group in which most students are enrolled in tertiary education; between 1995 and 2006, their enrolment rates increased in all OECD countries except Portugal (Table C2.2).

### ***Key results for Sweden***

***Sweden has a high participation rate for children aged 3-to4 years.***

- Sweden is just outside the top ten in terms of countries with higher levels of participation of this age group. 84.2% of 3-to-4-year-olds participate in pre-primary education. The OECD average is 69.4% (Table C2.1).
- Participation rates reduce as age increases but less so in Sweden compared to other OECD countries. For example in Sweden enrollment rates for 20-to-29 years is 36.1%, it falls to 13.2% for those in the 30-to-39 age bracket, and falls to 3% for 40 years + . Sweden is thus well positioned to provide education and training for adults which will be a challenge for most OECD countries in the future (Table C2.1).
- For the older age groups, Sweden is still well ahead of the OECD average and its Nordic neighbors in terms of adult education participation rates (Table C2.1).

*The proportion of individuals who have completed upper secondary education has been growing in almost all OECD countries and is now the norm among the younger cohorts, but a significant minority remains left out.*

- In the last 11 years, the proportion of students graduating from upper secondary programmes has increased by seven percentage points on average in OECD countries with available data. In 17 of 24 OECD countries, the ratio of upper secondary graduates to the population at the typical age of graduation is 80% or higher and in the Czech Republic, Finland, Germany, Greece, Iceland, Japan, Korea and Norway it exceeds 90%. However, in Luxembourg, Mexico, New Zealand, Spain, Sweden, Turkey and the United States, more than 20% leave school without attaining an upper secondary degree (Tables A1.2 and A2.2).
- 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)

*Sweden has one of the highest upper secondary attainment levels across the OECD.*

- Sweden holds a top 10 position across all different age groups in terms of upper-secondary attainment levels. For example 68% of the age-group 25-to-64 years of age have attained the upper-secondary level across the OECD; the figure is 84% in Sweden. 90% of those aged between 35-to-44 years have attained upper-secondary level, well above the OECD average 72% (Table A1.2a).
- The difference between upper-secondary attainment levels across the OECD in comparison to Sweden is more marked for those added 45-to-54 years (82% in Sweden, 65% OECD average (Table A2.1a).

*And the earning disadvantage is increasing for those without upper- secondary education.*

- The earnings disadvantage for not completing upper-secondary level education has increased over the period from 1997 to 2005 (from 90% to 86%) (Table A9.2a).
- As might be expected, there is a positive relationship between education attained and employment rates However in Sweden the difference is not as marked as the OECD average. There is a 20 percentage point difference between employment rates of those with a lower-secondary and those with a tertiary attainment level (25-to-64-year-old population). Across the OECD the difference is 26 percentage points (Table A8.3a). In the age-group 55-to-64-year-olds, for all levels of education, Sweden has among the highest employment rates across all OECD countries (A8.4).

*Some countries have been successful in improving educational opportunities among youths in difficult labour-market situations.*

- Most OECD countries have expanded their education system to accommodate more of the younger cohorts. For 15-to-19-year-olds, recruitment to education has largely taken place among individuals outside the labour market (not in education or employment) and to a lesser extent among employed individuals. With few exceptions, policies to expand education systems have thus helped to lower unemployment and inactivity among young adults (Tables C4.1b).
- The 15-to-19-year-old population that is not in education is generally associated with being

*Sweden has one of the lowest levels of youths who are not in education...*

- Only 12.3% of 15-to-19 year olds are not in education in Sweden. This is considerably lower than the OECD average of 17.1%. There is a wide variance across countries with 5.1% in Poland and 57.5% of this age group in Turkey who are not in education (Table C4.2a).
- Of those aged between 15-to-19 years and who are not in education, 7% are in employment and 5.3% are either unemployed or not in the labour force (Table C4.2a).
- The rate of employed students in aged 15-to-19 is also high, at 20.3% against an OECD average of

<p>unemployed or out of the labour force. Some countries are better able than others to provide employment for young adults with relatively low educational attainment. In Iceland, Japan and Norway, more than 70% of this age group not in education have employment (Table C4.2a).</p> <ul style="list-style-type: none"> <li>• On average, completing upper secondary education reduces unemployment among 20-to-24-year-olds by 7.4 percentage points and that of 25-to-29-year-olds by 6.2 percentage points. The lack of an upper secondary qualification is a serious impediment to finding employment, and a tertiary qualification further increases the likelihood of job seekers finding employment (Table C4.3).</li> </ul>	<p>14.4% (Table C4.2a).</p>
<p><b><i>Continuing education and training often does not reach those who need it most.</i></b></p> <ul style="list-style-type: none"> <li>• In many countries, non-formal continuing education and training now also plays a significant role in raising the stock of knowledge and skills. There are major differences among countries in the number of hours that individuals can expect to spend in non-formal job-related education and training over a typical working life. At the tertiary level, it ranges from less than 350 hours in Greece, Italy and the Netherlands to more than 1 000 in Denmark, Finland, France and Switzerland (Table C5.1a).</li> <li>• The relative intensity (number of hours) of non-formal job-related education and training typically increases sharply with educational attainment (except in the United Kingdom, Italy and the Netherlands). The expected hours in non-formal job-related education and training among 25-64-year-olds with tertiary qualifications is, on average across countries, nearly twice as high as among those with upper secondary qualifications and more than three times as high as among those without upper secondary qualifications (Table C5.1a).</li> <li>• An older worker with tertiary education can expect to receive at least 70% of the education and training of a younger worker in Denmark, Sweden and the United States, but the proportion falls below 20% in France, Hungary and the Netherlands. Adults with higher levels of educational attainment are more likely to participate in non-formal job-related continuing education and training than adults with lower educational attainment (Table C5.1a).</li> </ul>	<p><b><i>Participation in non-formal job related-education and training in Sweden is amongst the highest across the OECD...</i></b></p> <ul style="list-style-type: none"> <li>• In Sweden, between the ages of 25 and 64, the total expected hours in non-formal job-related training per worker is 622, considerable above the OECD average of 389 hours. Some of the highest levels of education and training hours are also seen in other Nordic countries: for example Finland (669 hours) and Denmark which has the highest level of non-formal job-related training across the OECD (934 hours) (Table C5.1a).</li> </ul> <p><b><i>...particularly for older age groups...</i></b></p> <ul style="list-style-type: none"> <li>• Sweden stands out in providing education and training to those in older age groups. For example the 55-to-64 year old population receives more non-formal education and training than 25-to-34 year olds (Charts C5.1 and C5.4).</li> </ul> <p><b><i>...although females in Sweden are disadvantaged compared to males in terms of participation in non-formal job related-education and training</i></b></p> <ul style="list-style-type: none"> <li>• In Sweden men have on average 38 hours more of non-formal job-related training than women (641 hours and 603 respectively). Considering OECD average levels, females also receive less of this type of training (405 hours for males, 384 hours for females). However, in a number of countries, females are at an advantage and receive more non-formal training than males (e.g. Finland, France Hungary, Portugal; and Spain) (Table C5.1a).</li> <li>• In Sweden, those with higher educational levels receive more non-formal job-related training. An individual with lower-secondary education will on average receive 350 hours of training, compared with 562 for upper-secondary and 917 for those with a tertiary qualification (Table C5.1a).</li> </ul>

<p><b><i>Countries vary greatly in how well they succeed in enabling students from blue-collar backgrounds to participate in higher education.</i></b></p> <ul style="list-style-type: none"> <li>• Ireland and Spain stand out as providing the most equitable access to higher education, whereas in Austria, France, Germany and Portugal students from a blue-collar background are about one-half as likely to be in higher education compared with what their proportion in the population would suggest (Indicator A7).</li> <li>• When measuring the socio-economic status of students in higher education by their fathers' educational background large differences between countries emerge. In many countries, students are substantially more likely to be in higher education if their fathers completed higher education. Students from such a background are more than twice as likely to be in higher education in Austria, France, Germany, Portugal and the United Kingdom than are students whose fathers did not complete higher education. In Ireland and Spain this ratio drops to 1.1 and 1.5, respectively.</li> <li>• Among the countries providing information on the socio-economic status of students in higher education it appears that inequalities in previous schooling are reflected in the intake of students from less advantaged backgrounds. The countries providing more equitable access to higher education – such as Finland, Ireland and Spain – were also the countries with the most equal between-school performances, as show by data collected in 2000 by OECD PISA.</li> </ul>	<p>There is no data available on this indicator for Sweden.</p>
<p><b><i>In almost half of the countries, the majority of upper secondary students are enrolled in vocational programmes. However, in key subject areas, the performance of students in vocational programmes tends to lag considerably behind student performance in general programmes.</i></b></p> <ul style="list-style-type: none"> <li>• In 13 out of 28 OECD countries and the partner country Slovenia, the majority of upper secondary students are enrolled in pre-vocational and vocational programmes. In most OECD countries, a significant proportion of upper secondary vocational education is school-based (Table C1.1).</li> <li>• In OECD countries with available data, vocational qualification is concentrated in engineering, manufacturing and construction at both the upper secondary (34%) and post-secondary non-tertiary (22%) levels (Table C1.2).</li> <li>• The 14 OECD countries for which data are</li> </ul>	<p><b><i>In Sweden, the majority of upper secondary students are enrolled in pre-vocational or vocational programmes...</i></b></p> <ul style="list-style-type: none"> <li>• Sweden is one of many countries including Australia, Belgium, the Czech Republic, Finland, Italy, Norway and the Slovak Republic where more than 55% + of upper-secondary students are enrolled in pre-vocational or vocational programmes (Table C1.1).</li> <li>• Where figures are available by type of programme, most graduates in Sweden undertaking upper secondary and post-secondary non-tertiary pre-vocational/ vocational programmes graduate by fields such as engineering, manufacturing and construction and humanities and arts (Table C1.2).</li> </ul> <p><b><i>... and spending per student on pre-vocational or</i></b></p>

<p>available spend, on average, USD 925 more per student on upper secondary vocational programmes than on general programmes (Table C1.3).</p> <ul style="list-style-type: none"> <li>• PISA 2006 shows that 15-year-olds in pre-vocational and vocational programmes have statistically significant lower performance in science compared to students enrolled in general programmes in 12 out of the 14 OECD countries for which data are available. On average, 15-year-olds enrolled in general programmes score 35 points higher and after adjusting for socio-economic factors a difference of 24 points still remains (Table C1.4).</li> </ul>	<p><i>vocational programmes is greater than on general programmes.</i></p> <ul style="list-style-type: none"> <li>• In upper secondary education Sweden, USD 347 more is spent per student on vocational/pre-vocational programmes than general programmes (USD 8 454 and USD 8 107 respectively) which is just below the OECD average USD 8 969 spent on vocational/pre-vocational programmes. In comparison with its Nordic neighbours Sweden spends more than Finland (USD 6 895) but less than Norway (10 995 USD) per student on vocational/pre-vocational programmes.</li> </ul>
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## *NOTES*

- “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.
- “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.
- “Non-formal education” is defined as 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 2008.
- “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.
- “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.
- “Statutory salaries” refers to teachers’ salaries according to official pay scales. The salaries reported are defined as gross salaries (total sum of money that is paid by the employer for the labour supplied) minus the employer’s contribution to social security and pension (according to existing salary scales). Salaries are “before tax”, i.e. before deductions for income taxes.
- “Tertiary-level education” is defined as higher education (HE). Indicators in Education at a Glance 2008 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.
- “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.