

**Education at a Glance 2002**

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**Briefing notes – United States**

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**The outcomes of education**

*Compelling incentives for individuals and societies to raise levels of education...*

- With very few exceptions, university-level graduates have markedly higher labour force participation rates (92% for males and 81% for females in the **United States**) than those without high school qualifications (75% for males and 52% for females in the **United States**). While there is a gender gap in labour force participation rates, it is only half as big for university-level graduates than for those with lower qualifications. (Page 117)
- Unemployment rates for tertiary graduates in the age group 30 to 44 years are, at 1.9% for males and 2.0% for females in the **United States**, significantly lower than for those without high school qualifications (7.5% for males and 8.9% for females). (Page 118)
- Education and earnings are closely linked. Education beyond high school brings a particularly high premium, with earnings of tertiary graduates in the age group 30 to 44 years old between 60% and 90% higher in the Czech Republic, Hungary, Portugal, the United Kingdom and the **United States** (73% for males and 78% for females). (Page 132)
- It is possible to contrast 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, in terms of the tuition fees they need to pay, lost earnings during their studies or higher tax rates later in life. Similar to the annual interest rate for money invested in a savings account, the 2002 edition of *Education at a Glance* calculates an annual rate of return on the investment that individuals incur when completing a tertiary degree between the ages of 25 and 64 years. In all countries, this private rate of return is higher than real interest rates, and often significantly so, with the rate of return on a tertiary qualification ranging for males from around 7% in Italy and Japan to around 15% or more in the **United States** and the United Kingdom. The high rates of return in the **United States** are to a large extent accounted for by relatively short university studies. In a similar way, it is possible to estimate the economic benefits of additional education to society. The resultant social rates of returns to tertiary education are typically lower than the returns for individuals since they also account for the opportunity cost of having people not participate in the production of output and the full cost of the provision of education rather than only the costs borne by the individuals who complete a tertiary qualification. Nevertheless, the social returns (13% for males and 12% for females in the **United States**) are still well above risk-free real interest rates. (Page 134)
- The improvement in human capital has been a strong and common factor behind economic growth in recent decades, and in some countries accounted for more than half a percentage point of growth in the 1990s. (Page 139)

*...have increased the output of tertiary educational institutions...*

- On average across OECD countries, four out of ten school leavers enter a tertiary programme leading to the equivalent of a bachelors' degree or higher. In Australia, Finland, Hungary, Iceland, the Netherlands, New Zealand, Norway and Sweden it is now between 51% and 71% (43% for the **United States**; 37% for men, 49% for women). (Page 231)
- The **United States** continues to show a high first degree graduation rate, with 33% of the typical age-group completing a first university degree. However, while among older age groups first degree graduation rates in the **United States** were significantly higher than in any other OECD country, today countries such as Australia, Finland or the United Kingdom outperform the **United States** on this measure. (Page 46)
- This is not only because more school leavers now enter higher education in these three countries, but also because the **United States** shows, at 44%, an above-average drop-out rate from first degree programmes. By comparison, in the United Kingdom only 17% do not successfully complete a degree, signalling a good match between student demand and educational provision. (Page 47).
- The **United States** remains an attractive place to study also for foreign students. Although down from 32% in 1998, in 2000 28% of all foreign students in the OECD area were studying in the **United States**. However, much of that is due simply to the large size of the country. Foreign students make up only 3.5% of the national student population in tertiary programmes, below the OECD average of 4.9%, and well below the proportions in Switzerland (16.6%), Australia (12.5%), Austria (11.6%) or the United Kingdom (11.0%). (Page 243)

*...while at the high-school level, progress was more mixed ...*

- The proportion of individuals in the population who have not completed a high school-degree has been falling in almost all OECD countries, and rapidly in some. In the **United States**, progress here has been limited. About a quarter of the typical age cohort in the **United States**, more than on average across OECD countries, do not successfully complete high school. Some of them obtain the equivalent of a high school certificate later in life, but even if those are taken into account, the **United States** has dropped from a clear first among the 30 OECD countries in the age group 45-64 to the 6<sup>th</sup> position among 35-44-year-olds and to the 9<sup>th</sup> position among 25-34-year-olds. By contrast, Korea ranked 24<sup>th</sup> among 55-64-year-olds, i.e. a generation ago, but is 1<sup>st</sup> among 25-34-year-olds. (Pages 36 and 37)

*...and the significant minority of persons not having completed a high school degree faces comparatively poor employment and earnings prospects.*

- A 30-44 year-old person in the **United States** without an high school qualification gains, on average, only 64% of the earnings of a high school graduate. (Page 132)
- The likelihood of unemployment for persons without a high school degree in the **United States** is about twice as high as for persons with a high school degree and about four times as high as for a tertiary graduate. (Page 118)
- In the **United States** around 8% of 15-19 year olds are neither in education nor in employment and those with low levels of education are particularly disadvantaged. (Pages 261 and 262)

*Last but not least, education combines with other influences to make adult training least common among those who need it most.*

- On average across 19 OECD countries with comparable data, 36% of the adult population participated in any form of continuing education and training within a 12-month period. 28% of the adult population participated in job-related continuing education and training. In the **United States** this rate is, at 51% for all forms of continuing education and training and at 40% for job-related continuing education and training, one of the highest among OECD countries. (Page 251)

- However, while the participation rate in job-related continuing education and training in the **United States** is 58% among university graduates, it is only 14% among those who have not completed high school. In other words, adults with university-level qualifications in the **United States** are four times more likely to participate in job-related continuing education and training than those who have not completed high school. Thus initial education combines with other influences to make adult training least common among those who need it most. (Page 251)

*OECD's assessment of student skills shows large variability in the quality of educational outcomes, both within and across countries.*

- Graduation rates alone do not say much about the quality of educational services. OECD's Programme for International Student Assessment (PISA) adds to this by providing internationally comparable measures of student performance in the key subject areas of reading literacy, mathematics and science.

*A considerable proportion of students in the United States perform very well in reading literacy...*

- On average, 10% of 15-year-olds in OECD countries have top-level literacy skills with which they are able to understand complex texts, to evaluate information and build hypotheses, and to draw on specialised knowledge. In the **United States**, 12% of students are among these top performers. Only six countries – New Zealand, Finland, Australia, Canada, the United Kingdom and Ireland – have a larger percentage (Page 71).

*...but a considerable proportion also perform poorly...*

- At the other end of the scale, an OECD average of 6% of students fall below Level 1, the lowest level of proficiency assessed on the OECD reading literacy scale. A further 12%, on average, are at Level 1, which requires students to complete only very basic reading tasks such as locating a simple piece of information or identifying the main theme of a text. This means that an average of 18% of 15-year-olds in OECD countries show serious weaknesses in the literacy skills needed for further learning. They may not be able to benefit effectively from available educational opportunities and fail to acquire the necessary knowledge and skills to do so effectively in their further school careers and beyond. The figures for the **United States** are at the OECD average with 6% of students below Level 1 and 12% at Level 1. (Page 71)

*...with the result that the United States, on average, is average...*

- With a relatively high percentage of its students doing well but a relatively high percentage also doing poorly, the **United States**, on average, is only average. Based on the mean scores for the 32 participating countries, and taking account of the errors of estimation in those means, the **United States** ranks would rank between the 10th and 20th. (Page 69)
- There is a well known connection between home background and educational achievement, with students from more privileged backgrounds generally performing better at school and being more likely to continue on to higher education and more rewarding employment. PISA shows that this relationship holds, across the OECD, between an index of economic, social and cultural status and performance on the combined reading literacy scale. But, the relationship between socio-economic background and achievement is not the same in all countries. In some countries, including the **United States**, the relationship is significantly stronger than in others, indicating that differences in home background are associated with greater differences in educational outcomes in those countries. In countries such as Japan, Korea, Iceland and Finland, the relationship is much weaker, indicating that those countries have much more effectively ameliorated the effects of differences in home background on education. (Page 101)

## The learning environment

### *Access to computers at schools is, in the United States, now largely a reality...*

- On average across countries, the typical 15-year-old attends a school with 13 students sharing one computer but this varies widely across countries and, in some countries, between regions and schools. The **United States** and Australia are the countries with the highest level of student access to computers, with only 5 15-year-olds sharing a computer. Even among the 25% of schools with the lowest rates of access, there are still only 7 15-year-olds sharing a computer in the **United States**. Nevertheless, 31% of school principals in the **United States** in the schools in which 15-year-olds are enrolled still consider that learning is hindered to some extent or a lot by a lack of computers for instruction. (Pages 302 and 304)

### *...but the home is the place where 15-year-olds report using computers most.*

- 49% of the 15-year-olds in the **United States** report using a computer at home almost every day and another 18% a few times a week. By contrast, only 18% report using a computer at school almost every day and another 19% a few times a week. 17% report never using a computer at school and 20% report using a computer at school less than once a month. (Page 306)

### *U.S. 15-year-olds stand out with a high degree of comfort with and perceived ability to use computers.*

- Among the 16 OECD countries with comparable data, there is no country where 15-year-old female students report such a high degree of comfort with and perceived ability to use computers than in the **United States**. 88% of females and 91% of males in the **United States** report being very comfortable or comfortable with using a computer, compared with averages of 70% and 82% respectively. (Page 313)
- U.S. females also report by far the highest degree of interest in computers. 89% of 15-year-old females report that it is important to work with a computer (OECD average 63%), 94% report that playing or working with a computer is really fun (OECD average 84%), 78% report using a computer because it interests them (OECD average 78%) and 73% report that they forget the time when working with a computer (OECD average 64%). (Page 314)
- Apart from computer familiarity, the **United States** also leads in many of the other measures of gender disparities at school and university.

### *U.S. 15-year-olds report a fairly positive instructional climate...*

- Compared to the OECD average, 15-year-olds in Australia, Canada, New Zealand, Portugal, Sweden, the United Kingdom and **United States** report receiving above-average support from their teachers. Below-average support from their teachers was reported from students in Austria, Belgium, the Czech Republic, Germany, Italy, Korea, Luxembourg and Poland. 66% of 15-year-olds in the **United States** reported that the teacher in most or every of their mother tongue classes shows an interest in every student's learning (OECD average 56%), 66% report that the teacher gives students an opportunity to express opinions (OECD average 66%), 70% report that the teacher helps students with their work (OECD average 59%), 63% report that the teacher continues teaching until the students understand (OECD average 60%) and 65% report that the teacher checks students' homework (OECD average 54%). These factors were positively associated with student performance in the **United States**. (Page 327)
- Setting desirable and attainable goals and encouraging students to reach them are major challenges of the teaching profession. 15-year-olds in OECD countries were asked how frequently their teacher in the language of instruction wants them to work hard and do their work with care, encourages them to do better, and makes them learn a lot. Compared to the OECD average, 15-year-olds in Australia, Canada, Finland, Hungary, Iceland, Ireland, Italy, New Zealand, the United Kingdom and the **United States** reported higher pressure to achieve from the teacher. Interestingly, 15-year-olds in Australia, Canada, New Zealand, the United Kingdom and

the **United States** seem to experience above-average pressure to achieve while, at the same time, also enjoying a relatively high level of teacher support, suggesting that teacher supportiveness and achievement pressure do not necessarily work against each other. (Page 328)

- 15-year-olds in the **United States** reported a frequent use of school resources such as the school library, computers or science laboratory equipment. (Page 329)

*...but only an average disciplinary climate.*

- In all countries, there is a positive link between the disciplinary climate in school and student performance. When students themselves say they cannot work very well in class, or that students do not listen to the teacher, whatever the cause, work is hindered. The report suggests that, in many countries including the **United States**, discipline problems disturb students' learning quite frequently. For example, 28 per cent of all 15-year-olds in OECD countries reported noise and disorder in most or every language (of instruction) class (**United States** 28%) and a particularly large proportion of 15-year-olds – 40 per cent or more – reported this in Finland, France, Greece and Italy. According to students' reports, time wasted at the beginning of lessons is the most frequent disciplinary problem. Of all students in OECD countries, over one-third reported that most or all mother-tongue classes start by spending more than five minutes doing nothing (**United States** 37%). However, while more than half of 15-year-olds in Belgium, Denmark, Greece, Iceland and Norway reported frequent loss of time at the beginning of lessons, fewer than one in four 15-year-olds reported the same in Hungary, Japan and Mexico. On average across OECD countries, 24% of 15-year-olds report that students do not listen to what the teacher says (**United States** 24%). (Page 327)

*Teacher working conditions are difficult by comparison..*

- At US\$ 40037, the mid-career statutory salary of a U.S. high school teacher ranks 8<sup>th</sup> among the 27 OECD countries with comparable data (OECD average US\$ 31221). However, when the salary of a high school teacher is compared with GDP per capita, the OECD indicators show that a U.S. high school teacher with 15 years of experience earns just 1.12 times the average national income per capita, which ranks the **United States** 22<sup>nd</sup> on this measure among the 27 OECD countries with comparable data. (Page 339)
- At the same time, the **United States** shows the highest number of teaching hours for primary and high school teachers and the second highest for middle school teachers. Net contact time in hours per year in public institutions are 1139 at the primary level (OECD average 792 hours), 1127 at the middle school level (OECD average 720 hours) and 1121 at high school level (OECD average 648 hours). At all levels, the **United States** has seen the largest increase in the number of teaching hours between 1996 and 2000. (Page 350)

## **Investment in education**

*The United States invests high levels of spending per student...*

- At all levels of education, spending per student in the **United States** is, at US\$ 6582 at the primary level, US\$ 8159 at the secondary level and US\$ 19220 at the tertiary level, well above the OECD average (on average, OECD countries spent, in 1999, US\$ 4148 per primary student, US\$ 5465 per secondary student and US\$ 9210 per tertiary student). (Page 158)

*...but not relative to national income.*

- Relative to GDP per capita, public spending on educational institutions is, at 4.9% of GDP, exactly at the OECD average level. Only an above-average private spending, at 1.6% of GDP compared with the OECD average of 0.6%, brings total spending on educational institutions to 6.5% of GDP (OECD average 5.5). (Pages 170 and 171)

*Tuition fees cover a significant share of educational expenditure.*

- At primary and secondary levels, private spending on educational institutions in the **United States** is, at 9.3% of total spending, only slightly above the OECD average of 7.9%. By contrast, 53.1% of funds for tertiary institutions in the **United States** originate from private sources, compared with an OECD average of 20.8%. Only Japan and Korea show a higher private share in the funding of tertiary institutions. (Pages 190 and 191)

*Public and private schools – but no middle path.*

- In the **United States**, students are either enrolled in schools that are publicly financed and managed (88.4% at the primary level, 90.1% at the middle school level and 90.6% at the high school level) or in schools that are both managed and predominantly financed privately (11.6% at the primary level, 9.9% at the middle school level and 9.4% at the high school level). At the primary level, no other country has such a high percentage of students enrolled in privately managed and predominantly privately financed schools and at the middle school level only Mexico and Portugal show similar levels. (Page 234)
- A much more common model for private education in most OECD countries are schools that are run by private entities but funded predominantly through the public purse, with the aim to reduce barriers to the participation of students from lower income groups. In fact, in Belgium and the Netherlands, the majority of primary, middle and high school students are enrolled in voucher schools that are privately managed but government funded. Also in Australia, Korea, Spain and the United Kingdom enrolment in predominantly publicly funded but privately managed schools is significant. At the OECD average level, enrolment in privately managed but predominantly publicly funded schools is now 7.8% at the primary level, 10.4% at the middle school level and 13.9% at the high school level. (Page 234)