

Education at a Glance 2007

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OECD Briefing Note for ITALY

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

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

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

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

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QUANTITY AND QUALITY CHALLENGES

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

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

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

Global trends

Education systems continue to expand at a rapid pace.

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

Key results for Italy

...and that trend is now highly pronounced in Italy.

- Italy has also seen impressive growth in tertiary qualifications over past years and, with 41% of the typical age cohort completing a full length first higher education course (“Type A” in the international classification), performs above the OECD average (36%) in 2005 (Table A3.1). Indeed, Italy doubled its graduation rate from tertiary-type A programmes between 2000 and 2005 – from 19 to 41% – an increase that can largely be attributed to the 2002 reform of tertiary education that now allows university students enrolled in long programmes to obtain a degree after 3 years of study (Chart A3.1 based on Table A3.2).
- Entry rates to universities or other institutions offering similar qualifications suggest that this trend will continue: 56% of an age cohort now enter tertiary-type A programmes at some stage during their life compared to 39% just 5 years before (Chart C2.1 based on Table C2.5).
- However, progression in high-level skills needs to be seen in the context of developments elsewhere: in 2005 in Italy, the entry rate to tertiary-type A programmes was slightly above the OECD average (54%) but still far lower than in Australia, Finland, Iceland, New Zealand, Norway, Poland and Sweden, where entry rates reach or exceed 70% (Table C2.4). This suggests that differences in tertiary educational attainment are likely to widen in the years to come.
- As for most OECD countries, the largest concentration of university qualifications awarded is in the combined fields of Social sciences, business, law and services (more than one-third of tertiary-type A and advanced research programmes) followed by Humanities, arts and education (23%) and then, Engineering, manufacturing and construction (15%) (Table A3.3).

- On average across OECD countries, the graduation rate for shorter, vocationally oriented programmes represents 9%, and 1.3% for programmes leading to advanced research qualifications.
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Italy has not developed tertiary-type B education to the extent that other countries have

- On average across OECD countries, 18% of an age cohort entered tertiary-type B programmes in 1995 and this proportion decreased to 15% in 2005 (Table C2.5). In Italy, only a small share of students attend tertiary-type B programmes.

<p><i>In most countries, the number of science graduates has increased faster than the overall number of graduates.</i></p> <ul style="list-style-type: none"> • The number of persons with a tertiary science degree per 100 000 employed persons ranges from below 700 in Hungary to above 2 200 in Australia, Finland, France, Ireland, Korea, New Zealand and the United Kingdom (Table A3.4). • The ratio of younger to older age groups with science as a field of study is 3.0, compared with a ratio for all fields of study of 2.3. In Austria and Canada, the ratio is larger than 4.0, in Hungary and Ireland larger than 6.0, and in Portugal and Spain larger than 8.0 (Table A1.5). 	<p><i>Italy has the same proportion of science graduates as the OECD average</i></p> <ul style="list-style-type: none"> • In Italy, there are 1 401 persons with a tertiary degree in science per 100 000 employed persons, compared with an OECD average of 1 295 (Table A3.4). • A comparatively large share of students study science, <i>i.e.</i> 12%, as compared with the OECD average of 11% (Table A1.4). • A comparison of younger to older age groups with science as a field of study shows the increase in science graduates over recent decades: the ratio of 25-34-year-olds with a university-level qualification plus 30-39-year-olds with an advanced research qualification to 55-64-year-olds with a university-level or advanced research qualification is 2.0 in Italy, compared with an OECD average of 3.0 (Table A1.5).
<p><i>The effects of tertiary expansion: a high calibre workforce or the overqualified crowding out the lesser qualified?</i></p> <ul style="list-style-type: none"> • The labour-market and financial incentives for attaining tertiary qualifications continue to remain high for both men and women, despite the rapid growth in the number of those obtaining qualifications. This can be seen when contrasting the advantages of tertiary education for individuals in terms of higher average earnings, lower risks of unemployment and the public subsidies they receive during their studies, with the costs that individuals incur when studying, such as tuition fees, lost earnings during studies and higher tax rates later in life. In all countries with comparable data, the private rate of return for those who acquire tertiary degrees immediately following school is higher than real interest rates, and often significantly so, at a minimum of 9.8% in all eleven countries for which data are available – except for Denmark, New Zealand and Sweden (Table A9.6). • The average unemployment rate among those with only lower secondary education is 5 percentage points higher than those whose highest level is upper secondary and 7 points higher than those with tertiary education (Indicator A8). The data show that while unemployment is substantially higher than the average among those with low qualifications, this situation has not worsened in those countries that have expanded tertiary education. However, in those countries that did not expand tertiary education, there has been a rise in the relative risk. Indeed, in these countries a failure to complete upper secondary education is now associated with an 80% greater probability of being unemployed, compared to less than 50% in those countries that have 	<p><i>The labour-market benefits of tertiary education continue to be high in Italy</i></p> <ul style="list-style-type: none"> • Failure to possess baseline qualifications also has a cost in terms on earnings. Individuals with less than upper secondary education bear a high earnings penalty compared to their counterparts with upper secondary and even more so tertiary education. In Italy, earnings of 25-to-64-year-olds with less than upper secondary education are 21% lower than those of individuals with upper secondary education, and more than half the level earned by university graduates (Chart A9.2 based on Table A9.1a). • In general, people with tertiary qualifications command significantly higher salaries than those with only secondary education. In Italy, earnings for tertiary graduates in the age group 25-64 are on average 60% higher than those for people with only upper secondary or post-secondary non-tertiary education – a comparatively high earnings advantage compared to most other OECD countries – placing Italy after the Czech Republic, Hungary, Ireland, Poland, Portugal, and the United States (Table A9.1a). • Moreover, the wage premium of possessing tertiary qualifications compared to earnings of individuals who ended their education at the upper secondary or post-secondary non-tertiary education levels increased dramatically over a fairly short period: from a 27% to a 60% wage premium between 1998 and 2004 – <i>i.e.</i> a 33 percentage points increase (Table A9.2a). This suggests that the demand for advanced qualifications is rising faster than the supply. • Like in the Czech Republic, Denmark, Finland, France, Hungary, Luxembourg, New Zealand, Poland, Portugal, and the United States, in Italy tertiary education enhances earnings relative to upper secondary education more for

increased tertiary education the most.

- Countries expanding tertiary education attainment more in the late 1990s tended to have a greater fall (or smaller rise) in unemployment between 1995 and 2004 than countries with less tertiary expansion. For example, France, Ireland and Korea had the fastest growth in tertiary attainment and close to zero or negative growth in unemployment; Germany, the Czech Republic and the Slovak Republic had low or no growth in tertiary attainment but substantial growth in unemployment among the unqualified (Indicator A1).
- The indicators provide no evidence that the lesser qualified are crowded out from the labour market and there is much to point to the opposite: that the least educated individuals benefit in terms of better employment opportunities when more people enter higher education. In addition, an analysis of trends in the absolute level of unemployment for upper-secondary educated adults suggests that changes in the level of unemployment during the period 1995 to 2004 are unrelated to changes in tertiary attainment levels. In fact, for both upper and lower secondary unemployment, there is no statistically significant correlation between an expansion in tertiary attainment and movement in unemployment rates after controlling for growth in GDP. There is, however, a significant correlation between increases in tertiary and upper secondary attainments and the fall in relative unemployment for lower-secondary educated adults. All this suggests that employment prospects among the least well-educated are principally tied to growth in the economy and in general to productivity, to which an adequate supply of high-skilled labour can potentially contribute.
- Furthermore, higher qualifications do not create unemployment among those with tertiary qualifications or a slump in their pay. Although this does not imply that tertiary graduates enter jobs in line with their qualifications, it still indicates that the benefits of higher education have not deteriorated as higher education has expanded. And while there have been some small rises in the relative risk of unemployment for graduates, this has not been worse where tertiary attainment has expanded fastest.
- In all OECD countries graduates face much lower levels of unemployment than do other groups. In terms of pay, the data suggest some curbing of an increasing advantage for tertiary graduates where their supply has risen fastest, but not a general fall. This evidence corroborates similar results from cross-sectional studies, suggesting that lower-educated groups share in the benefit of more tertiary

males than for females. The reverse is true in the remaining countries with available data, with the exception of Belgium and Germany where, relative to upper secondary education, the earnings of males and females are equally enhanced by tertiary education (Table A9.1a).

- Although both males and females with upper secondary, post-secondary non-tertiary or tertiary attainment have substantial earnings advantages compared with those of the same gender who do not complete upper secondary education, earnings differentials between males and females with the same educational attainment remain significant. When all levels of education are taken together (i.e. total earnings are divided by the total number of income earners, by gender) the earnings of females between the ages of 30 and 44 range from 51% of those of males in Korea, to 84% of those of males in Luxembourg; in Italy it is 74% (Table A9.1b). The gap in earnings between males and females may be explained by many factors, including differences in the amount of time that males and females spend in the labour force, and the higher incidence of part-time work among females. To some extent it may also be due to different career and occupational choices.

<p>education and that the extra skills produced have largely been absorbed by the labour market. In tracking these phenomena over time, it is interesting to note that positive effects seem to be more pronounced in recent years, contradicting the notion that tertiary education, so far, is expanding too rapidly.</p>	
<p><i>The internationalisation of tertiary education is proceeding rapidly.</i></p> <ul style="list-style-type: none"> • In 2005, over 2.7 million tertiary students were enrolled outside their country of citizenship. This represented a 5% increase in total foreign student intake reported to the OECD and the UNESCO Institute for Statistics from the previous year. • Student mobility – i.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. International students are most numerous in tertiary enrolments in Australia, Austria, France, New Zealand, Switzerland and the United Kingdom. • France, Germany, the United Kingdom and the United States receive more than 50% of all foreign students worldwide. In absolute numbers, international students from France, Germany, Japan and Korea represent the largest numbers from OECD countries. Students from China and India comprise the largest numbers of international students from partner economies. • In Spain, Switzerland and the United States, and the partner economy Brazil, more than 15% of international students are enrolled in advanced research programmes. • 30% or more of international students are enrolled in sciences, agriculture or engineering in Finland, Germany, Hungary, Sweden, Switzerland, the United Kingdom and the United States. • International graduates contribute to 20% or more of the graduate output for tertiary-type A programmes in Australia and the United Kingdom. The same holds for foreigners graduating in Belgium. The contribution of international and foreign graduates to the tertiary graduate output is especially high for advanced research programmes in Belgium, Switzerland, the United Kingdom and the United States. 	<p><i>Italy captures a relatively small share of the international market of international students</i></p> <ul style="list-style-type: none"> • By contrast, Italy is a comparatively minor destination for international students, with less than 2% of foreign students worldwide enrolled in Italy (Chart C3.2 based on on Web Table C3.8). • Despite an 80% increase in the number of foreign students enrolled in Italy between 2000 and 2005, the latter represent 2.2% of total tertiary enrolments, placing Italy amongst the least internationalised countries (Table C3.1).

EQUITY CHALLENGES

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

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

<i>Global trends</i>	<i>Key results for Italy</i>
<p><i>In most OECD countries, upper secondary education is becoming universal, but in some countries a sizeable minority is left behind.</i></p> <ul style="list-style-type: none"> • The proportion of individuals in the population who have successfully completed upper secondary education (see notes on definition at the end) has been rising in almost all OECD countries, and rapidly in some. In more than half of all OECD countries, the proportion of 25-to-34-year-olds with upper secondary qualifications now exceeds 80%, and in Canada, the Czech Republic, Korea, the Slovak Republic and Sweden it exceeds 90% (Table A1.2a). • Those who have attained at least upper secondary education enjoy substantial earnings advantages (Chart A9.4). For many countries, the earnings disadvantage of those without upper secondary qualifications has significantly worsened (Table A9.2a). • Gender differences in employment and unemployment rates are largest among those without upper secondary education (Chart A8.1). 	<p><i>In Italy, a still large share of individuals does not complete upper secondary education and face considerable and increasing penalties in the labour market...</i></p> <ul style="list-style-type: none"> • Ranked by upper secondary educational attainment in the population, Italy occupies the 25th position among 55-to-64-year-olds in the 29 OECD countries with data (i.e. those who completed school some 40 years ago) but only the 24th position among 25-to-34-year-olds, who completed school a decade ago. By contrast, Korea ranks 23rd among 55-to-64-year-olds but 1st among 25-to-34-year-olds (Table A1.2a). Therefore, whilst upper secondary attainment rates have dramatically increased in Italy, the trend has been greater in many other countries. • Individuals with less than upper secondary education are less likely to be in employment than their more educated peers: in Italy, only 52% of 25-to-64-year-olds with less than upper secondary education are employed, compared to 73% for those with upper secondary or post-secondary non-tertiary education and 80% for tertiary graduates (Table A8.3a). For women, these differentials are most pronounced: only about a third of women with less than upper secondary education are in employment (Chart A8.2 based on Web Tables A8.3b and A8.3c). • Although unemployment rates have decreased since 1995 for all levels of educational attainment in Italy, the decrease in unemployment has been steeper for individuals with upper secondary or tertiary education than for those with less than upper secondary education. These trends suggest that improvements in the labour market situation have benefited mostly individuals possessing baseline qualifications. In 2005, 7.7% of low educated adults were unemployed, while the rate drops to 5.7% for tertiary-educated workers (Table A8.4a). Nevertheless, the drop is even more significant for the

	<p>EU-19 average, from 13% to 4%.</p> <ul style="list-style-type: none"> • In the case of young adults, the transition from school to work is also more difficult for those with low levels of education. In Italy 11.3% of 25-to-29-year-olds with less than upper secondary education are not in education and unemployed, resulting in high social costs, while this proportion drops to 6.9% for those having attained upper secondary education (Chart C4.1 based on Table C4.3).
<p><i>Schools and societies face major challenges in integrating immigrants.</i></p> <ul style="list-style-type: none"> • International migration has become a key issue in most OECD countries, sparking intense debate on how immigrants can be successfully integrated into societies and labour markets. The OECD Programme for International Student Assessment (PISA) adds an important new perspective to the discussion by assessing the educational success of 15-year-old students from immigrant families. It is clear that serious challenges lie ahead for education systems, particularly in Europe. Indicators show that: • Among the 14 OECD countries with significant immigrant populations, first-generation students lag 48 score points behind their native counterparts on the PISA mathematics scale, equivalent to more than a school year's progress, on average. The performance disadvantage of second-generation students also remains significant, at 40 score points. The disadvantage of students with an immigrant background varies widely across countries, from insignificant amounts in Australia, Canada, New Zealand and Macao-China to more than 90 score points in Belgium and Germany, even for second-generation children. • Second-generation students (who were born in the country of the assessment) tend to perform better than their first-generation counterparts (who were born in another country), as one might expect since they did not need to make transitions across systemic, cultural and linguistic borders. However, the gains vary widely across countries. In Canada, Luxembourg, Sweden and Switzerland, and the partner economy Hong Kong-China, second-generation students perform significantly better than first-generation students, with the performance gap reduced by 31 score points in Switzerland and 58 score points in Sweden, while in Germany and New Zealand, second-generation students born in these countries perform worse than first-generation students. • The mathematics achievement of the highest performers among students with an immigrant background varies much less across countries than the achievement of the lowest-performing students with 	<ul style="list-style-type: none"> • No data available for Italy.

<p>an immigrant background.</p> <ul style="list-style-type: none"> • Despite performing less well on the whole than native students and generally coming from less advantaged families, students who have experienced immigration first-hand tend to report, throughout the OECD area, higher levels of interest and motivation in mathematics. 	
<p><i>Countries vary greatly in how well they succeed in enabling students from blue-collar backgrounds to participate in higher education.</i></p> <ul style="list-style-type: none"> • 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 as compared with what their proportion in the population would suggest (Indicator A7). • 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. • 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. 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 shown by data collected in 2000 by OECD PISA. 	<p><i>Access to higher education is inequitable, but much less so than in other European countries.</i></p> <ul style="list-style-type: none"> • 17% of higher education students' fathers in Italy hold a higher education qualification themselves, while this is only the case for 10% of men in the same age group as students' fathers (Chart A7.2a). The strongest selectivity into higher education is found in Portugal, with a ratio of 3.2. In Austria, France, Germany and the United Kingdom, students are about twice as likely to be in higher education if their fathers hold a university degree as compared with what their proportion in the population would suggest.
<p><i>Initial education alone can no longer satisfy the rising and changing demand for skills, but job-related education and training is still least common among those who need it most.</i></p> <ul style="list-style-type: none"> • In many countries, non-formal continuing education and training now also plays a significant role in raising the stock of knowledge and skills. In Denmark, Finland, Sweden and the United States, more than 35% of employees take part in non-formal job-related education and training each year. At 27%, the corresponding participation rate in the United Kingdom is also still well above the OECD average of 	<p><i>The intensity of participation in non-formal job-related education and training is comparatively low in Italy.</i></p> <ul style="list-style-type: none"> • The Italian system of continuing education and training is insufficiently developed to allow individuals lacking baseline qualifications to acquire them at later stages of their working lives. Indeed, Italy exhibits one of the lowest participation rates in non-formal job-related training – with 4% only of 25-to-64-year-olds reporting participation in some type of non-formal job-related training during the past 12 months. • Furthermore, this aggregate participation rate masks large differences according to educational attainment of

<p>18%. At the other end of the scale, Greece, Hungary, Italy, the Netherlands, Poland, Portugal and Spain provide such training to fewer than 10% of employees (Table C5.1a).</p> <ul style="list-style-type: none"> • In OECD countries, on average, the participation rate in non-formal continuing education and training among employees who have not completed upper secondary education is less than half the rate among those with upper secondary education and less than a quarter of the rate seen among those with tertiary education. In the United Kingdom these differences are significantly larger than in most OECD countries. 	<p>individuals, from 12% for tertiary graduates to only 1% for adults with less than upper secondary education. As a result, Italians with less than upper secondary education can expect to spend only 26 hours in non-formal job-related training over a typical working life (40 years) – i.e. barely more than 30 minutes per year. This is the lowest level compared to the other 22 countries with available data. In other words, continuing education and training in Italy tends to reinforce, rather than moderate, disparities that arise from initial education and training (Chart C5.2 based on Table C5.1a).</p> <ul style="list-style-type: none"> •
<p><i>In some countries, student's expectations for their own educational future are also closely related to their social background.</i></p> <ul style="list-style-type: none"> • Some 57% of 15-year-olds in OECD countries expect to go to university, but this rate varies from as high as 95% of students in Korea to as low as 21% in Germany. Indicators show that expectations vary within countries according to individual performance levels, gender, socio-economic background and immigrant status. Data collected in 2003 through OECD PISA show that 15-year-olds' expectations for completing a university-level programme are closely linked with their performance in mathematics and reading. Regardless of their relative academic abilities, 15-year-olds from lower socio-economic backgrounds are less likely to expect to complete tertiary education than those from higher socio-economic backgrounds. In most countries, 15-year-old students from immigrant backgrounds are more likely to expect to complete a university-level programme than their native counterparts. The relative expectations of these students are even higher when compared with native students of similar aptitudes and socio-economic backgrounds. 	<p><i>Students expectations in Italy area are above the OECD average level....</i></p> <ul style="list-style-type: none"> • In Italy, the percentage of 15-year-olds who expect to complete a university-level programme reaches 52.1%, and is therefore above the OECD average, i.e. 44.5% (Table A4.2a). • <p><i>but the difference between expectations for males and for females is quite high.</i></p> <ul style="list-style-type: none"> • The difference in the rates of expectation to complete higher education is very high in Italy. Only 43.0% of males expect to complete this level compared to 60.4% of females (Table A4.3a).

RESOURCE AND EFFICIENCY CHALLENGES

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

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

Global trends	Key results for Italy
<p><i>OECD countries spend 6.2% of their collective GDP on educational institutions, but the rise in spending on education between 1995 and 2004 fell behind growth in national income. There is further scope for enhancing the efficiency of educational spending.</i></p> <ul style="list-style-type: none"> • More people are completing upper secondary and tertiary education than ever before, and in many countries the expansion has been accompanied by massive financial investments. Between 1995 and 2004 and for all levels of education combined, expenditure on educational institutions stepped up in the 24 countries with comparable data for the period. The increase reached, on average, 42% in OECD countries and was usually larger for tertiary education than for primary to post-secondary non-tertiary levels of education combined. • At the tertiary level of education, the rise in expenditure over the period 1995-2004 was more pronounced from 2000 onwards than before 2000 in nearly one-half of OECD countries. Between 2000 and 2004, expenditure increased by more than 30 percentage points in the Czech Republic, Greece, Mexico, Poland, the Slovak Republic and Switzerland and the partner economy Chile. • It is important to relate overall spending on education to the investment made per student. OECD countries as a whole spend USD 7 572 per student annually between primary and tertiary education, that is USD 5 331 per primary student, USD 7 163 per secondary student and USD 14 027 per tertiary student, but these averages mask a broad range of expenditure across countries. As represented by the simple average across all OECD countries, countries spend twice as much per student at the tertiary level than at the primary level. 	<p><i>Italy spends comparatively high amounts per students up to upper secondary education...</i></p> <ul style="list-style-type: none"> • In Italy, annual expenditure per primary and secondary student is well above the corresponding OECD averages – at USD 7 390 for primary students and USD 7 843 for secondary students compared to respectively USD 5 832 and USD 7 276 in the OECD (Chart B1.2 based on Table B1.1a). Moreover, expenditure per student increased by 5% in real terms in primary, secondary and post-secondary non-tertiary education between 1995 and 2004 alone (Chart B1.7 based on Table B1.5). • Over the theoretical duration of primary and secondary studies, Italy invests USD 99 778 per student – the 8th highest level of investment in the OECD behind Austria, Denmark, Iceland, Luxembourg, Norway, Switzerland and the United States and more than 22% above the OECD average (USD 81 485) (Chart B1.5a based on Table B1.3a). <p><i>... In contrast to the situation of primary, secondary and post-secondary non-tertiary education, Italy invests comparatively little on tertiary education ...</i></p> <ul style="list-style-type: none"> • In contrast to the situation of primary, secondary and post-secondary non-tertiary education, Italy spends comparatively little on tertiary education relative to its OECD peers. With 0.9% of its GDP devoted to tertiary education, Italy is the only OECD country that spends less than 1% of its GDP on tertiary education, and stands 0.5 percentage point below the OECD average. Investment in tertiary education relative to GDP is also lower in Italy than in the partner economies Chile and Israel (Chart B2.2 based on Table B2.1). • With USD 7 723 spent annually per tertiary student, Italy invests at least 30% less in the highly skilled than its OECD peers – USD 11 100 on average – although

- Lower unit expenditure does not necessarily lead to lower achievement and it would be misleading to equate lower unit expenditure generally with lower quality of educational services. For example, the cumulative expenditure of Korea and the Netherlands is below the OECD average and yet both are among the best-performing countries in the OECD PISA 2003 survey.
- Countries with low levels of expenditure per student can nevertheless show distributions of investment relative to GDP per capita similar to those countries with high levels of spending per student. For example, Hungary, Korea, Poland and Portugal, and the partner economy Estonia – countries with expenditure per student and GDP per capita below the OECD average at primary, secondary and post-secondary non-tertiary level of education – spend a higher proportion of money per student relative to GDP per capita than the OECD average.
- Expenditure per student at primary, secondary and post-secondary non-tertiary levels progressed by 50% or more between 1995 and 2004 in Greece, Hungary, Ireland, Poland, Portugal, the Slovak Republic and Turkey, and the partner economy Chile. On the other hand, spending per student at the tertiary level has in some cases fallen, as expenditure does not keep up with expanding student numbers.
- Expenditure on education tends to rise over time in real terms, as teachers' pay (the main component of costs) rises in line with general earnings. On the one hand, rising unit costs that are not paralleled by increasing outcomes raise the spectre of falling productivity levels in education. Across OECD countries, there is potential for increasing learning outcomes by 22% while maintaining current levels of resources (output efficiency). The scope for reducing the resources devoted to education while maintaining the current levels of outcomes is slightly larger, at 30% (input efficiency). Differences in estimates of efficiency for different types of school (e.g. public and private) tend to be modest, when looking at the OECD as a whole, though efficiency savings are greater for smaller schools than for larger schools (Indicator B7).

Private sources of funding for education are becoming increasingly important.

- On average, over 90% of primary and secondary education in OECD countries, and nowhere less than 80% (except in Korea and in the partner economy Chile), is paid for publicly. However, in tertiary education the proportion funded privately varies widely, from less than 5% in Denmark, Finland and

expenditure per tertiary student in Italy remains above the spending levels of the Czech Republic, Greece, Hungary, Korea, Mexico, Poland and the Slovak Republic (Chart B1.2 based on Table B1.1a).

- In addition, a sizeable proportion of expenditure on tertiary institutions corresponds to Research and Development activities in Italy (Chart B6.2 based on Table B6.1). The comparison of expenditure per tertiary student on core education services reveals an even less favourable situation, with expenditure per tertiary student in Italy now 40% below the OECD average – at USD 4 812 compared to USD 7 951 in the OECD – before Greece, Poland and Turkey (Table B1.1a).

and private resources are increasingly drawn upon to fund Italian tertiary education...

- With 30.6% of tertiary education expenditure funded from private sources, Italy stands above the OECD average (24.3%) in terms of the contribution of the private sector to tertiary education funding, and is the leading EU country in that respect (Chart B3.1 based on Table B3.2b).
- This is the result of significant changes over the past decade in the way tertiary education is funded: indeed, Italy is among the countries with the highest increases in the private contribution to the funding of tertiary education. The relative share of private expenditure rose from 17.1% to 30.6% of spending on tertiary institutions between 1995 and 2004. Only Australia and the Slovak Republic saw a faster increase in the private share of educational funding (Chart B3.3 based on Table B3.2b).
- Italy is part of the group of countries with low tuition fees charged by universities (USD 1 100 or less) combined with a low proportion of students (less than 40%) that benefit from public loans or scholarships/grants. Among the other countries in this group (Austria, Belgium, France, Ireland, Poland and Spain), Italy and Poland have the highest entry rates, which suggests that the absence of higher tuitions fees can ease access to education.

Greece, to more than 50% in Australia, Japan and the United States and in partner economy Israel, and to above 75% in Korea and in the partner economy Chile.

- In all countries for which comparable data are available, for all levels of education combined, public funding increased between 1995 and 2004. However, private spending grew even more in nearly three-quarters of these countries. Nevertheless, in 2004, on average 87% of expenditure, for all levels of education combined, was still from public sources.
- The share of tertiary spending from private sources rose substantially in some countries between 1995 and 2004, but this was not the case at other levels of education.
- On average among the 18 OECD countries for which trend data are available, the share of public funding in tertiary institutions declined slightly between 1995 and 2000, as well as every year between 2001 and 2004. However, in general the increase in private investment has not displaced public financing, but rather complemented it.
- In tertiary education, households cover the majority of private expenditure in all countries with available data, except Greece, Hungary and Sweden. Private expenditure from other entities than households is still significant, representing 10% or more in Australia, Hungary, Italy, Korea, the Netherlands, Sweden, the United Kingdom and the United States, and the partner economy Israel.

Instruction time, teachers' salaries, and student-teacher ratios vary widely among countries.

- The choices countries make about how many hours and years students spend in the classroom and the subjects they study reflect national priorities and preferences. Budgetary considerations also help shape education: teachers' salaries represent the largest single cost in providing school education and, as such, are a critical consideration for policy-makers striving to both maintain the quality of education and to contain spending. While class size has become a hot topic in many OECD countries, evidence on its impact on student performance is mixed. Among the findings on these nuts-and-bolts educational policy issues:
- Students in OECD countries are expected to receive, on average, 6 898 hours of instruction between the ages of 7 and 14, of which: 1 586 hours are between ages 7 and 8; 2 518 hours between ages 9 and 11; and 2 794 hours between ages 12 and 14. The large majority of intended hours of instruction are compulsory.
- In OECD countries, students between the ages of 7 and 8 receive an average of 769 hours per year of compulsory instruction time and 793 hours per year of intended instruction time in the classroom. Students between the ages of 9 and 11 receive about 45 hours more per year, and those aged between 12 and 14 receive just over 90 hours more per year than those aged between 9 and 11.
- Salaries for teachers with at least 15 years' experience in lower secondary education are over twice the level of GDP per capita in Korea and Mexico; in Iceland, Norway and the partner economy Israel, salaries are 75% or less than GDP per capita. Those salaries range from less than USD 16 000 in Hungary to USD 51 000 or more in Germany, Korea and Switzerland, and more than USD 88 000 in Luxembourg.
- The average class size in primary education is 22 students per class, but varies between countries from 33 in Korea to less than half that number in Luxembourg and the partner economy the Russian Federation. From 2000 to 2005, the average class size did not vary significantly, but the differences in class size between OECD countries seem to have diminished. Class size tends to have decreased in countries that used to have relatively large class sizes (for example, in Japan, Korea and Turkey) whereas class size tends to have increased in countries with relatively small class sizes (for example, Iceland) (see 2000 data in Table D2.4 on the web only).

The choice to spend most of the resources on a large number of comparatively poorly paid teachers, as well as on long instruction hours, is not obvious.

- In Italy, most of the financial resources in primary and secondary education are invested in providing long instruction hours with very low student to teaching staff ratios. Indeed, Italy reports the highest duration of intended instruction time among OECD countries – with more than 8 000 hours scheduled between the ages of 7 and 14 – (Chart D1.1 based on Table D1.1).
- Low student to teaching staff ratios contribute to below-average class sizes in Italy, with on average 18.3 students per class in primary education and 20.9 students in lower secondary education, compared to 21.5 and 24.1 respectively on average in OECD countries (Chart D2.2 based on Table D2.1).
- Italy also reports below-average student to teaching staff ratios from pre-primary through upper secondary education. In primary education, the student to teaching staff ratio stands at 10.6 students per full-time equivalent teacher – the lowest level with Hungary among OECD countries and well below the OECD average of 16.7 students per teacher. Student to teaching staff ratios are similarly low in secondary education at 10.7 students per full-time equivalent teacher compared to 13.4 in the OECD (Chart D2.3 based on Table D2.2).
- The fact that the performance of 15-year-olds in the major subject areas of reading, mathematics and science is well below the OECD average raises questions about the efficiency of these spending choices. Indeed, the subject areas of reading, mathematics and science account for 42% of instruction time for 12-to-14-year-olds in Italy, slightly more than in a typical OECD country (39%) but significantly more in absolute terms when taking into account the high instruction time of Italy (Tables D1.1 and D1.2b). Hence the association of high instruction hours in key subject areas with favourable student to teaching staff ratios and class sizes do not seem to pay off in terms of student outcomes.
- By contrast with these comparatively favourable student learning conditions, teacher salaries continue to be low by OECD standards: in lower-secondary education, teachers with 15 years of experience earn USD 31 917 in 2005 compared to USD 40 322 on average in OECD countries. Similar patterns can be observed in primary and upper secondary education, where teacher salaries in Italy stand more than 20% below the OECD average after adjustment with purchasing power parities. Teacher salaries are not only low by OECD standards in Italy, they also increased comparatively slowly: it takes 35 years for a teacher to

<ul style="list-style-type: none"> • The number of students per class rises by an average of nearly three students between primary and lower secondary education, but ratios of students to teaching staff tend to diminish with increasing levels of education due to more annual instruction time, though this pattern is not uniform among countries. • In primary and secondary education, OECD countries spend 91% on current expenditure, of which 63.5% is for the compensation of teachers, 15.5% for the compensation of other staff, and 19.9% for other current expenditure. At the tertiary level of education, 89.3% is devoted to current expenditure, of which 42.7% is for the compensation of teachers, 23.6% for the compensation of other staff, and 33.8% for other current expenditure (Table B6.2). 	<p>reach the top of the salary scale, compared to 24 years in OECD countries on average (Chart D3.1 based on Table D3.1).</p> <ul style="list-style-type: none"> • In part, these low salaries are compensated by a comparatively low average number of annual hours that primary and lower secondary teachers have to teach in Italy – 735 hours in primary and 601 hours in lower-secondary education compared with OECD averages of 803 and 707 hours respectively (Chart D4.2 based on Table D4.1). In addition, teacher salaries have improved in real terms since 1996, by 10 to 12% depending on levels of education and experience (Chart D3.3 based on Table D3.2).
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<p><i>OECD countries where students are required to pay tuition fees can nevertheless have large access to tertiary education.</i></p> <ul style="list-style-type: none"> • OECD countries where students are required to pay tuition fees and can benefit from particularly large public subsidies do not show lower levels of access to full-length, theory-based bachelor and masters degree university-level programmes, compared to the OECD average. For example, Australia (82%) and New Zealand (79%) have one of the highest entry rates to tertiary-type A education, and the Netherlands (59%) and the United States (64%) are above the OECD average. The United Kingdom (51%) is just below the OECD average (54%), although entry to tertiary-type A education rose by 4 percentage points between 2000 and 2005. 	
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<p>NOTES</p> <ul style="list-style-type: none"> • “Educational attainment” is defined as the highest grade completed within the most advanced level attended in the educational system of the country where the education was received. Some countries may also find it useful to present data on educational attainment in terms of the highest grade attended. • “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>i.e.</i> preparing students for entry directly into working life) and/or “preparatory” (<i>i.e.</i> 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 2007*.

- “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 2007* cover both the current performance of the HE system and the proportion of the adult population (25-to-64-year-olds) who have attained HE qualifications. Tertiary programmes are generally divided by type of course: “tertiary-type A” (largely theory-based and designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine, dentistry or architecture) and “tertiary-type B” (typically shorter and focused on practical, technical or occupational skills for direct entry into the labour market). “Graduation rate” is defined as the ratio of tertiary graduates to the population at typical age of graduation.
- “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.