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 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 the partner country Chile with global trends among OECD countries, under the headings: quantity and quality challenges, equity challenges, and resource and efficiency challenges.

Education at a Glance 2008, as well as its executive summary, all data and web-only tables, can be downloaded free of charge at 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 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, which allows to gauge the demand for skills.
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 oldest and youngest age groups (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 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 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 and A2.5).

- 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. Two fields are noteworthy for the strong representation of females, namely health and welfare and

Key results for the partner country Chile

Chile has experienced a sustained increase in attainment levels at the tertiary level, although these are still below the OECD average.

- In Chile, 13% of the population aged 25-to-64 has attained tertiary education: 3% have attained a tertiary-type B programme, and 10% have attained a tertiary-type A programme. The total percentage is similar to that of OECD countries Italy and Portugal, below the OECD average of 27%, and higher than in partner country Brazil (8%) (Table A1.3a).

- Chile records sustained increases in attainment levels of tertiary education from older to younger cohorts. In the total tertiary area, the 55-to-64 age group has an attainment level of 9%, whereas for the 25-to-34 age group this percentage doubles to 18% (Table A1.3a).

- Across age cohorts, only 1% of the population in the 55-to-64 age group have attained tertiary-type B education (below the OECD average of 6%), whereas in the younger age group of 25-to-34-year-olds, the percentage has increased to 4% (below the OECD average of 10%) (Table A1.3a).

…and trends in entry rates suggest that further progress is being made.

- At 43%, tertiary-type A education entry rates in Chile have increased by 11 percentage points since 2001, though they remain below the OECD average of 56% (Table A2.5). Entry rates to tertiary-type B education have, however, been fairly static and they represent a significant part of tertiary education in Chile. Here, entry rates in Chile (34%) are twice the OECD average of 16%. The figures range from 4% or less in Iceland, Mexico, the Netherlands, Norway, Poland, Portugal and the Slovak Republic, to 30% or more in Belgium, Greece and Japan, and in the partner countries Chile, Estonia, the Russian Federation and Slovenia, to more than 45% in Korea and New Zealand. (Table A2.4).

- Chile records an overall percentage of females among new entrants to tertiary education of 48%. As is the case with other OECD and partner countries, females students in Chile are highly represented in subjects such as health and welfare (72% of females), as well as humanities, arts and education (61%), although these percentages are slightly below the OECD average (Table A2.6).
humanities, arts and education with 75% and 68%, respectively, of new entrants. The proportion of females choosing science (including life sciences, physical sciences, mathematics, computing, engineering, manufacturing and construction and agriculture) studies 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).

**This expansion is driven by strong labour-market outcomes for those with advanced qualifications.**

- 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 by between 30 and 40% (Table A9.2a).

- On average across countries, a tertiary education yields a 12 and 11% return for males and females, respectively, and returns are substantial in the Czech Republic, Hungary, 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).

- 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).

- 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. The chance of being employed is 23 percentage points higher for males than for females among those without upper secondary qualifications but...
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).

There are also marked shifts towards more skilled jobs in labour-markets.

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 skill distribution but among semi-skilled jobs, with the proportion of the population working in unskilled occupations remaining substantially unchanged (Table A1.6).

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 the proportion of people with tertiary qualifications has generally been faster than the growth of skilled job, 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 qualifications.
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 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 Kingdom (Table C3.1).

- 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 (Table C3.2).

- 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 C3.4).

- 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).

Concerning studies abroad, there is a marked preference among Chilean students to study in OECD countries, especially the United States and Spain, although Germany is also a top preference.

- About 77% of Chilean citizens studying abroad are studying in OECD countries. From this percentage, almost 40% are distributed between the United States (20.6%) and Spain (17.8%). Germany and France are also relatively important destinations, with 8.2% and 7.9% of Chilean citizens studying there, respectively (Table C3.3).

- Within the principal destinations of foreign students worldwide at the tertiary level (i.e. France, Germany, the United Kingdom and the United States), Chilean students constitute 0.2% of foreign students in France, 0.3% of the international student population in Germany, 0.1% in the United Kingdom, and 0.3% in the United States (Table C3.2).

New analyses of PISA data provide a first picture of school education from the perspective of parents.

- 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).

- 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).

- 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).

For the first time, the indicators compare approaches to monitoring school standards.

- 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) 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).

- School self-evaluations are required in 14 countries, generally on an annual basis (Table D5.6).

- 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 have, in general, appear 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).

- 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

| [No data available] | [No data available] |
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).

- 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).
# RESOURCE AND EFFICIENCY CHALLENGES

Meeting the demand for more education while at least maintaining 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 over the last decade, and by 19% on average 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 primarily 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 payscales 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.
### Global trends

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 expenditure continue to rise.

- 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.

- 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).

- 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).

- Teacher compensation cost per student 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 on this, in Luxembourg, relatively low class size is the main factor which results in such a high teacher compensation cost per student.

### Key results for the partner country Chile

Spending per student is below the OECD average in Chile at all levels of education, but spending on education relative to GDP per capita is above the OECD average at the pre-primary and tertiary levels.

- Spending per student from primary to tertiary level education in Chile is, at USD 2 694, below the OECD average of USD 7 527, and only above spending levels of Mexico and the partner countries Brazil and the Russian Federation (Table B1.1a).

- Below tertiary education, while OECD countries tend to have increasing levels of expenditure per student for all services from the pre-primary to the secondary level, Chile follows the opposite trend, allocating more resources to pre-primary (USD 2 953), than to primary education (USD 1 936) and to secondary education (USD 1 924). Expenditure levels per student for all services are nevertheless higher at the tertiary level, with USD 6 620, although these are still about 60% of the OECD average (Table B1.1a).

However, spending relative to GDP demonstrates the importance of education investment in Chile.

- At the pre-primary level, Chile has an expenditure of 23% (per student relative to GDP per capita) above the OECD average of 18% (Table B1.4).

- At both primary and secondary education, Chile has expenditure per student of 15% (per student relative to GDP per capita) which is below the OECD averages of 21% and 26% (Table B1.4).

- At the tertiary level, with 52%, Chile is above the OECD average of 40%. This difference is more marked in tertiary-type A and advanced research programmes, where Chile allocates 63% of resources (compared to 42% at the OECD level), than at the tertiary-type B level, where Chile allocates 31% (compared to 22% at the OECD average) (Table B1.4).

- In Chile, between 1995 and 2005, spending on primary, secondary and post-secondary non-tertiary education increased by 83% while enrolments rose by 15%, resulting in a spending increase per student of 58%. That is significantly more than the OECD average increase of 34% in per-student spending (Table B1.5).

- Chile has a cumulative expenditure per student of USD 20 254 for students aged 6 to 15. This is
(as a proportion of GDP per capita) compared to the OECD average (Table B7.2).

• 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).

• 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).

• 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).

OECD countries spend 6.1% of their collective GDP on educational institutions. 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.

- 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 educational institutions; in Greece and in the partner country the Russian Federation, the figure is 4.2 and 3.8%, respectively (Table B2.1).

- Tertiary education accounts for nearly one-third of the combined OECD expenditure on educational institutions (2.0% of the combined GDP). In

There have been relatively important increases in education expenditure in Chile, although spending is skewed towards expenditure on tertiary education.

- Chile spends 5.7% of its GDP on educational institutions. This percentage is very similar to the OECD average of 5.6%. Although Chile is still below the OECD average of expenditure at the primary, secondary and post-secondary non-tertiary level (3.4% compared to 3.7% of the OECD average), this is not the case at the tertiary level, where Chile’s expenditure is 1.8% of GDP, whereas the OECD average is 1.4% (Table B2.1).

- Expenditure levels as a percentage of GDP in Chile are similar to levels seen in Hungary, Norway and Portugal (Table B2.1).

- In Chile, expenditure levels at all levels of education (as a percentage of GDP) recorded a rise between 1995 and 2000 from 5.1% to 6.7%, but also a slight decrease during the 2000-2006 period to
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.

- 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).

- Since 1995, Chile has experienced the greatest increase in educational expenditure (92%) among OECD and partner countries, after Greece (130% of increase). This increase is slightly larger at the tertiary level (84%) than at the primary, secondary and post-secondary non-tertiary level (83%). Expenditure on educational institutions as a percentage of GDP in Chile has increased by 56% since 1995. Furthermore, this was the highest increase among OECD and partner countries after Ireland, Luxembourg and the partner country of Estonia (Table B2.3).

In all countries public funding on educational institutions increased between 1995 and 2005. However, private spending increased even more in nearly three-quarters of these countries.

- 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).

- 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 and 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 which form a relatively high proportion in Australia and New Zealand (Table B3.2b).

- Private sources of funding provide an above-average share of educational spending in Chile. Across all levels of education combined, private sources provide 47% of funding in Chile. This is well above the OECD average of 15% and the highest proportion of private expenditure among OECD and partner countries. Between 2000 and 2005, the percentage of private funding in educational expenditure for all levels of education increased from 45% to 47%. Also in this five-year period, the share of private funding increased by 14%, whereas that of public funding increased by only 3%. Also at all levels of education combined, 96% of private sources originate from household expenditure (Table B3.1).

- At the pre-primary level, Chile’s share of private funding of educational institutions is, at 31%, well above the OECD average of 20%. At this level of education, Chile has the seventh highest share of private funding after Australia, Austria, Iceland, Japan, Korea and New Zealand. At the primary, secondary and post-secondary non-tertiary education level, although the percentage of private sources of funds of Chile does not vary greatly from that at the pre-primary level (30%), there is a significant difference with that of the OECD average, which is only 8.5% (Table B3.2a).

- This difference is larger at the tertiary education level, where the private sources in Chile go up to 84%, whereas the OECD average is 27% (Table B3.2b).

- In eight out of the 11 OECD countries with the largest increase in public expenditure on tertiary 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).

- In tertiary education, households account for most [Note that private spending originates both in households and other private entities and can go to private as well as public institutions].

5.7% (Table B2.1)
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).

**On average, OECD countries devote 13.2% of total public expenditure to education, but values for individual countries range from 10% or below in the Czech Republic, Germany, Italy and Japan to more than 23% in Mexico.**

- Between 1995 and 2005, education took a growing share of total public expenditure in most countries, and on average it also grew as fast as GDP. In Denmark, the Netherlands, New Zealand, the Slovak Republic and Sweden and in the partner country Brazil, there have been particularly significant shifts in public funding in favour of education (Table B4.1).

- 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).

**Although public spending on education as a percentage of GDP is low in Sweden, public expenditure as a percentage of total public expenditure is high compared to other OECD and partner countries.**

- At all levels of education combined, Chile has the lowest share of public expenditure on education as a percentage of GDP among OECD and partner countries. In 1995, the share of public expenditure on education for Chile was of 3%, it increased to 3.9% in 2000 and, in 2005, it decreased again to 3.2% (against an OECD average of 5.3%, 5.1% and 5.4% respectively) (Table B4.1).

- Nevertheless, with Chile has the highest percentage of public expenditure on education (16%) as a percentage of total public expenditure after Iceland, Mexico, New Zealand and the Slovak Republic (Table B4.1).

- In a number of countries, at all levels of education combined, considerable public funds are transferred to private institutions or given directly to households to spend on the institution of their choice: In Chile, about 45% of public expenditure on education is distributed (directly or indirectly) to the private sector. This percentage is higher than that of other countries that allocate more than 20% of their public expenditure on education to the private sector, such as: Denmark, New Zealand, Norway and the United Kingdom and in the partner country Israel (Table B4.2).

**There are large differences among OECD countries in the average tuition fees charged by tertiary-type A public institutions.**

- 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 EU19 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 institutions (Table B5.1a).

- When tuition fees are charged, tertiary institutions are responsible for setting tuition fee levels in

[No data available]
almost all countries and for determining the level of tuition fees. Only Japan, 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 B5.1b).

- 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 and Sweden and the partner country Chile, public subsidies to households account for some 27% or more of public tertiary education budgets (Table B5.2).

- 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.

- OECD countries in which students are required to pay tuition fees and 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.

### Instruction time, teachers’ salaries, and student-teacher ratios vary widely among countries, which affects the level of expenditure per student.

- 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

### Chile has comparatively low teacher salaries, but high teaching loads...

- Chile, along with the Czech Republic, Hungary, Mexico, Turkey, Estonia and Israel has both comparatively low teacher salaries and low GDP per capita when compared to the OECD average (Chart D3.2 and table D3.1), but at the same time, with 864 hours, Chile has one of the highest hours of net teaching time across OECD and partner countries (Table D3.1 and D4.1).
size has become a hot topic in many OECD countries, evidence on its impact on student performance is mixed.

- 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).
- 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).
- 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.
- 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).
- 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).

**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.**

- 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.
- From 2000 to 2006, average class size did not vary significantly, but differences in class size among OECD countries seem to have diminished. Class size tends to have decreased in countries that had relatively large class sizes in 2000 (such as Japan, Korea and Turkey) whereas it tends to have increased in countries with relatively small class

**Class sizes in Chile are among the largest in the OECD and partner countries, and are slightly larger in private institutions than in public institutions.**

- From primary to lower secondary education, teachers’ salaries in Chile vary according to the teacher’s career status and not according to the educational level attained: starting salaries are USD 10 922, mid-term career salaries are USD 12 976, and top of scale salaries of USD17 500 (Table D3.1).
- At the upper secondary level, starting salaries for teachers are the same as at the primary and lower secondary levels. However, mid-term career and top of scale salaries are USD 603 and USD 821 higher at upper secondary than at primary and lower secondary education (Table D3.1)
- Salaries at top of the scale at the primary and lower secondary levels are 60% higher than that of at the starting level. At the upper secondary level, the difference between starting and the top end of scale salary is of 68%, which is similar to the OECD average (Table D3.1).
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.

- 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).

- 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).

Because of the high numbers of instruction hours that Chilean students receive, they devote more time to reading, writing and literature, mathematics and science than OECD average students.

- Among OECD and partner countries, Chile has the highest number of hours of compulsory instruction time. From ages 7-to-14-years, Chilean students must follow 1,094 hours of instruction per year, which is above the OECD average that ranges from 770 hours for 7-to-8-year-olds to 896 hours for 12-to-14-year-olds. At age 15, students must follow 1,210 hours of compulsory instruction, which is at least 300 hours more than the OECD average (Table D1.1).

- Nevertheless, Chilean students have relatively more freedom in their compulsory curriculum. About 79% of instruction time is devoted to compulsory core curriculum (compared to 91% among OECD countries) and 21% to compulsory flexible curriculum (compared to only 4% among OECD countries) (Table D1.2a).

- At 9-to-11-years-olds, students will spend 44% of compulsory curriculum instruction time devoted to reading, writing and literature, mathematics and science. This percentage is slightly below the OECD average of 48%. As for the time allocated to other subjects, 10% of time is spent on arts; 7% on both technology and physical education, 5% on religion; 4% on social sciences; and 2% on modern foreign languages (D1.2a).

- Although the percentage of instruction time of their curriculum dedicated to reading, writing and literature, mathematics and science is lower than the OECD average, given that instruction time as a whole is higher than the OECD average, Chilean students actually receive more absolute hours of instruction on these subjects compared to other students across the OECD. Chilean students receive a total of 481 hours of instruction in reading, writing and literature, mathematics and science, while the OECD average is 389 hours (Tables D1.1 and D1.2a).

- At ages 12-to-14-years, the percentage of compulsory curriculum time of instruction devoted to reading, writing and literature, mathematics and science is 37% (equivalent to 405 hours of instruction time), which is also slightly below the OECD average of 39% (equivalent to 350 hours of instruction time). At this age in Chile, the percentage of instruction time used for social studies and modern foreign

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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).

- 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).
- 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).
- 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 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 (Fr.), 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.

The teaching load in Chile is high compared to levels across the OECD and partner countries. This is valid for net teaching hours, days and weeks of instruction.

- Chile, along with the other partner country Slovenia, requires 192 days of instruction for primary teachers. This is well above the OECD average of 187 days, and represents one of the highest levels (number of days of instruction) across the OECD and partner countries after Australia, the Czech Republic, Denmark, Germany, Greece, Korea, Mexico, the Netherlands, New Zealand, and the partner country Brazil (Table D4.1).
- Also at the primary level, the 40 weeks of instruction time required for teachers in Chile (as well as Australia, the Czech Republic, Germany, Greece, the Netherlands and the partner countries Brazil and Slovenia) is above the OECD average of 38 weeks. Only Denmark and Mexico, with 42 weeks, and the partner country Israel, with 43 weeks, have a higher number of required weeks of instruction time (Table D4.1).
- In Chile, the required net teaching time in hours is also above the OECD average at all educational levels (864, compared to the OECD average of 812, 717 and 667 hours at the primary, lower and upper secondary levels). Only the working time required at school in hours is slightly below the OECD average (Table D4.1).
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 schools with strong baseline qualifications or attain these subsequently. Education at a Glance 2008 provides a range of indicators on disparities in educational attainment and their labour-market consequences.
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 EU19, 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).

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 and unemployment rates are largest among those without upper secondary education (Chart A8.1)

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<th>Some countries have been successful in improving educational opportunities among youths in difficult labour-market situations.</th>
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| 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 C4.2a and C4.3).

- The 15-to-19-year-old population that is not in education is generally associated with being 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 (Tables C4.2a and C4.3).

- 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 6.8 percentage points. The lack of an upper secondary qualification is clearly a serious impediment to finding employment, and a tertiary qualification further increases the likelihood of job seekers finding employment (Tables C4.2a and C4.3).

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<th>Continuing education and training often does not reach those who need it most.</th>
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<td>In many countries, non-formal continuing education and training now also plays a significant role in raising the stock of knowledge</td>
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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).

- 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 than among those with upper secondary qualifications and more than three times as high as than among those without upper secondary qualifications (Table C5.1a).

- An older worker with tertiary education can expect to receive at least 70% of the education and training of a young 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).

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<th>Countries vary greatly in how well they succeed in enabling students from blue-collar backgrounds to participate in higher education.</th>
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<td>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).</td>
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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 show by data collected in 2000 by OECD PISA.

**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 that of general programmes**

- 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.

- 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.

- The 14 OECD countries for which data are available spend, on average, USD 925 more per student on upper secondary vocational programmes than on general programmes.

- 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).

**In Chile, most students are enrolled in general programmes at the upper secondary level, and this kind of programme receives more resources than vocational/pre-vocational programmes.**

- In Chile, 64.5% of the population is enrolled in general programmes and 35.5% in vocational programmes. The percentage of enrolment in vocational programmes is similar to levels seen in Greece, Iceland, Turkey and the partner country Israel, although Iceland has other modalities such as pre-vocational education (C1.1).

- With USD 1,956 allocated to educational institutions per student at the upper secondary level of education, Chile spends below the OECD average per student at USD 8,366. Unlike the average of OECD countries, Chile allocates more resources to general education (USD 2,081 per student), than to vocational/pre-vocational programmes (USD 1,700 per student) (Table C1.3). Other countries that allocate more resources to general programmes compared to pre-vocational/vocational programmes (although the expenditure levels may be very different) include Australia, Luxembourg, the Netherlands, the Slovak Republic and the partner country Estonia (Table C1.3).