

OECD Education at a Glance 2014

Summary analysis of the key findings by Education International

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Introduction

Education at a Glance (EaG) is a leading annual OECD publication on education systems indicators in OECD and partner countries. The findings of the Report are based on a broad range of statistical data and increasingly on data from international comparative studies. The report is a key output within the framework of the OECD's Indicators of Education Systems (INES) programme. The publication is, as stated, purposely designed to strive for a strengthened link between national education policy needs and the best international comparative data available.

The 2014 edition of Education at a Glance provides new education and skills data for 45 countries on the structure, finances, and performance of education systems. It also draws on the OECD databases of the Programme for International Student Assessment (PISA), the Survey of Adult Skills (PIAAC), and Teaching and Learning International Survey (TALIS), providing rich international evidence base on education.

Key message: Education policies that promote equity leads to growth and prosperity

Declaring this year's report to be the first showing the exit from the economic crisis, OECD continues to argue that education and skills hold the key to future wellbeing and will be critical to restoring long-term growth, tackling unemployment, promoting competitiveness, and nurturing more inclusive and cohesive societies. This edition of Education at a Glance focuses on evidence of the critical role that education and skills play in fostering social progress.

The Report claims that changes in the income distribution towards greater inequality are increasingly determined by the distribution of education and skills in societies. Across OECD countries, 73% of people without an upper secondary education find themselves at or below the median level of earnings, while only 27% of university graduates do. This difference in income from employment between adults without upper secondary education and those with a tertiary degree continues to grow.

A first glance at the evidence shows that in OECD countries' access to education continues to expand. Importantly, the crisis did not slow this process of expansion; on the contrary, when scanty labour markets didn't provide much of an alternative, many individuals used the low opportunity costs to invest in their education with the aim of improving their chances for a better life. On the face of it, the expansion of education and the general increase in the level of skills available in the population should imply a growing and more highly skilled workforce. But the Report finds that socio-economic divisions are deepening, because the impact that skills have on the life chances of individuals has increased considerably.

Here OECD expresses important warning. The data show that educational attainment and skills do not always align. Moreover, not all countries with the largest increase in educational attainment rates are those with the largest increase in the proportion of highly skilled adults. In fact, across countries, adults with similar levels of education can have very different levels of proficiency in skills – a fact that argues, in OECD’s view, for a reconsideration of how we define educational qualifications.

A lack of skills increases the risk of unemployment – even among people with similar levels of education. For example, on average across countries that participated in the Survey of Adult Skills, 5.8% of adults without upper secondary education, but who had a moderate level of literacy proficiency, were unemployed compared to 8.0% of adults with similar educational attainment but who had low levels of literacy proficiency. Similarly, among tertiary-educated adults, 3.9% of those with lower literacy proficiency were unemployed compared with 2.5% of those with the highest proficiency.

The risks – and, in many instances, also the penalties – of low educational attainment and low skills pertain not only to income and employment, but to many other social outcomes as well. For example, there is a 23 percentage-point difference between the share of adults with high levels of education who report that they are in good health and the share of adults with low levels of education who report so. Levels of interpersonal trust, participation in volunteering activities, and the belief that an individual can have an impact on the political process are all closely related to both education and skills levels. Thus, societies that have large shares of low-skilled people risk deterioration in social cohesion and well-being. When large numbers of people do not share the benefits that accrue to more highly skilled populations, the long-term costs to society – in healthcare, unemployment and security, to name just a few – accumulate to become overwhelming.

Indeed, the increasing social divide between the educational “haves” and “have-nots” – and the risks that the latter are excluded from the social benefits of educational expansion – threatens societies as a whole. Analysis of data from the Survey of Adult Skills shows that when people of all skills levels benefit from greater access to education, so do economic growth and social inclusion. Inclusive societies need education systems that promote learning and the acquisition of skills in an equitable manner and that support meritocracy and social mobility.

In this edition of *Education at a Glance*, as in the past, the most interesting findings may not be the averages across OECD countries, but the way the indicators highlight the differences among countries. These variations reflect different historical and cultural contexts, but they also demonstrate the power of policies. The Report acknowledges that different policies produce different outcomes, and this is also true with regard to education and skills. Most importantly, by concluding that some countries do better than others in breaking the cycle of social inequality that leads to inequality in education, in containing the risk of exclusion based on education and skills, OECD admits that education alone cannot fix social problems – it requires integrated policies across the field.

What can be found in the Report?

The Report is organised in four Chapters containing thirty indicators in total. The indicators provide information on the human and financial resources invested in education, how education and learning systems operate and evolve, and the returns to investments in education. The indicators are organised thematically, and each is accompanied by information on the policy context and an interpretation of the data. The statistical data refer mainly to 2011 and 2012.

Most of the indicators in **Chapter A, *The output of educational institutions and the impact of learning***, relate to the outputs and outcomes of education, including data on employment and earnings and social outcomes. Even so, indicators in Chapter A measuring educational attainment for different generations, for instance, not only provide a measure of the output of the education system, but also provide context for current education policies, helping to shape policies on, for example, lifelong learning.

Between 2000 and 2012, the proportion of people without upper secondary or post-secondary non-tertiary education has shrunk at an average annual rate of about 3%. Meanwhile, tertiary education continued to expand during the same period, growing more than 3% each year. For the first time, in 2012, about one in three adults in OECD countries held a tertiary qualification.

On average across OECD countries participating in the Survey of Adult Skills, 32% of young people have achieved a higher level of education than their parents, while only 16% have not attained their parents' education level. In all countries except Estonia, Germany, Norway and Sweden, absolute upward mobility in education is more common than absolute downward mobility, reflecting the expansion of education systems in most OECD countries.

Parents' education, nevertheless, seems to have an effect on individuals' literacy and numeracy proficiency. On average, most of the people with the highest scores in literacy, as measured by the Survey of Adult Skills, are those from families where at least one parent has attained tertiary education. Similarly, most of the adults with the lowest levels of literacy proficiency are those whose parents have below upper secondary education as their highest level of attainment.

Socio-economic status also remains a strong predictor of success. Across OECD countries, 15% of the difference in performance among students as measured in PISA is explained by disparities in students' socio-economic status. In countries where this relationship is strong, students from disadvantaged families are less likely to beat the odds against them and achieve high levels of performance. Even more telling, some 39 score points – the equivalent of around one year of formal schooling – separate the mathematics performance of those students who are considered socio-economically advantaged and those whose socio-economic status is close to the OECD average.

Gender differences in educational attainment have reversed over the years. In 2000, adult men had higher tertiary attainment rates than adult women. In 2012, the situation was inverted: 34% of women had attained a tertiary education compared with 31% of men. However, the picture changes when earnings are considered. Across OECD countries, a tertiary-educated woman earns about 75% of what a similarly educated man earns.

As in the previous Reports, it is argued that besides private there is a strong public incentive to invest in education, especially in tertiary education. The net public return on investment for a man with tertiary education is over USD 105 000 across OECD countries – almost three times

the amount of public investment in his education. For a woman, the public return is over USD 60 000, which is almost twice the amount of public investment in her education.

One important conclusion is that the increase in attainment rates signals that people are staying longer in education and that policy initiatives have been successful in tackling such problems as dropout and lack of equity in education. Indeed, results from the latest round of the OECD Programme for International Student Assessment (PISA) reveal that most of the countries that have improved their performance since 2003 either maintained or improved equity in education so that a basic minimum standard of education is available to all.

On the other hand those students who exit education before completing upper secondary education tend to face severe difficulties entering – and remaining in – the labour market. Leaving school early is a problem, both for individuals and society. Policy makers are examining ways to reduce the number of early school-leavers, defined as those students who do not complete their upper secondary education.

However, with regard to tertiary attainment in particular, the Report draws serious attention to the relevance of sub-national contexts. Data do illustrate that country-level averages sometimes mask important variations within countries that are of high interest to national and local policy makers. In addition to governmental boundaries, other types of subnational distinctions may be relevant for countries, such as those based on geographic boundaries, or urban or rural distinctions.

Chapter B, *Financial and human resources invested in education* provides indicators that are either policy levers or antecedents to policy, or sometimes both. For example, expenditure per student is a key policy measure that most directly affects the individual learner, as it acts as a constraint on the learning environment in schools and learning conditions in the classroom. Much attention in this chapter is devoted to measuring the impact of economic crisis; however, with most of data referring to 2011, it is still premature to assess the full scale of consequences.

In this regard, the Report estimates that from 2005 to 2011, expenditure per student in primary, secondary and post-secondary non-tertiary educational institutions increased by 17 percentage points on average across OECD countries; but between 2009 and 2011, investment in education fell in nearly one-third of OECD countries as a result of the economic crisis, and resulted in a decrease of expenditure per student in a few countries. On average, OECD countries spend USD 9 487 per student per year from primary through tertiary education: USD 8 296 per primary student, USD 9 280 per secondary student, and USD 13 958 per tertiary student. These averages, however, mask large variation between countries. In 13 countries the average expenditure per student was above 10 thousands USD (PPP), while in 4 countries – less than 4 thousand. As in the previous reports, OECD argues, countries may have chosen different priorities. In some of the highest spending jurisdictions, teachers have the highest salaries while others have chosen low student-teacher ratios per class.

Relative to GDP, in 2011, OECD countries spent an average of 6.1% of their GDP on educational institutions; seven countries (Argentina, Denmark, Iceland, Israel, Korea, New Zealand and Norway) spent more than 7%. Since the beginning of the economic crisis in 2008 and up to 2011, the GDP rose, in real terms, in half of the countries with available data, while public expenditure on educational institutions fell in only six countries. In the shorter period between 2009 and 2011, GDP rose, in real terms, in most countries, and public expenditure on

educational institutions fell in one-third of OECD countries, probably as a consequence of fiscal consolidation policies.

Most of funding comes from public sources. Private expenditure on educational institutions as a percentage of GDP is highest at the tertiary level, on average across OECD countries. This share is the highest in Chile, Korea and the United States where it ranges from 1.7% to 1.9% of GDP.

Education accounts for 12.9% of total public spending on average across OECD countries. It is ranging from less than 10% in Hungary, Italy and Japan to more than 20% in Indonesia, Mexico and New Zealand. While the proportion of public expenditure devoted to education decreased in two-thirds of countries between 2005 and 2011, during the shorter period 2008-2011 - the height of the economic crisis - public expenditure on education grew at a faster rate (or decreased at a slower rate) than public expenditure on all other services in 16 out of the 31 countries with available data.

The Report addresses with caution the issue of tuition fees at tertiary level. In eight OECD countries, public institutions charge no tuition fees, but in one-third of the 26 OECD countries with available data, public institutions charge annual tuition fees in excess of USD 1 500 for national students. While this may affect negatively the overall access rates to higher education, the Report argues for balanced view, suggesting that Countries with high levels of tuition fees tend to be those where private entities (e.g. enterprises) contribute the most to funding tertiary institutions. Also, an average of nearly 22% of public spending on tertiary education is devoted to supporting students, households and other private entities thus offsetting tuition costs. In general, OECD takes the view that public expenditure is beneficial but governments should strike the right balance among different subsidies, especially in a period of financial crisis. In particular, the Report suggests that student financial support systems that offer loans with income-contingent repayment to all students combined with means-tested grants can help to promote access and equity while sharing the costs of higher education between the state and students.

Regarding the structure of the expenditure, the Report continues the adopted method of measuring the salary cost of each teacher per student. As teachers' salaries constitute by far the largest share of education expenses (80%) on average, particular analysis is devoted to how salary costs are composed and measured. Four factors influence expenditure on education related to the salary cost of teachers per student: instruction time of students, teaching time of teachers, teachers' salaries and estimated class size. Consequently, a given level of the salary cost of teachers per student may result from different combinations of these four factors. The Report estimates that between 2008 and 2012, the salary cost of teachers per student increased in about two-thirds of countries at the primary level and in more than half of countries at the lower secondary level of education. On average, it increased by 7% (from USD 2 454 to USD 2 633) at the primary level and by 4% (from USD 3 217 to USD 3 355) at the lower secondary level. While there are significant differences between countries on this indicator, the OECD agrees that even similar levels of expenditure among countries can mask a variety of contrasting policy choices. This helps to explain why there is no simple relationship between overall spending on education and the level of student performance. For example, at the upper secondary level of education, France and Ireland had similar levels of salary costs of teachers per student in 2012, both higher than average. In France, this was mainly a result of the combination of below-average teachers' salaries and class size and above-average instruction

time, while in Ireland it was mostly the result of above-average salaries whose effect was counterbalanced by above-average teaching time.

Chapter C, *Access to education, participation and progression*, provides indicators that are a mixture of outcome indicators, policy levers and context indicators. Internationalisation of education and progression rates are, for instance, outcome measures to the extent that they indicate the results of policies and practices at the classroom, school and system levels. But they can also provide contexts for establishing policy by identifying areas where policy intervention is necessary to address issues of inequity, for example.

Access to education for 5-14 year-olds is universal in all OECD and most partner countries with available data. In 2012, enrolment rates among 15-19 year-olds were greater than 75% in 34 of the 40 OECD and partner countries with available data. More than 20% of 20-29 year-olds in all OECD countries, except Luxembourg, Mexico and the United Kingdom, participated in education in 2012. The Report reasons that expansion of upper secondary education has been driven by both increasing demand and policy changes ranging from a more flexible curriculum and a reshaping of vocational studies, to efforts to expand access to education to the entire population. While the same changes have been made to tertiary education, participation rates at this higher level of education are significantly lower, however.

In a majority of OECD countries, education now begins for most children well before they are 5 years old. More than three-quarters of 4-year-olds (84%) are enrolled in early childhood education and primary education across OECD countries; among OECD countries that are part of the European Union, 89% of 4-year-olds are. The Report acknowledges the expansion of private pre-primary institutions, especially in non-European countries, however, suggesting that reasons may have to do with quality than access. As countries continue to expand their early childhood education programmes, it will be important to consider parents' needs and expectations regarding accessibility, cost, programme and staff quality and accountability. When parents' needs for quality, accessibility or accountability are not met, some parents may be more inclined to send their children to private pre-primary institutions, childcare or extra-curricular activities. This can result in heavy financial burdens for parents, even when government subsidies are provided.

Access to higher education and internationalisation continues to expand. While some 58% of young adults in OECD countries are expected to enter tertiary-type A (largely theory-based) programmes over their lifetime, less than 3% are expected to enter advanced research programmes. In 2012, more than 4.5 million students were enrolled in tertiary education outside their country of citizenship. Australia, Austria, Luxembourg, New Zealand, Switzerland and the United Kingdom have the highest proportion of international students as a percentage of their total tertiary enrolments. Notably, the Report says that public funding portable across borders may ease the cost burden for international students and improve geographical balance.

A whole indicator is devoted to transition from school to work and Report has found some positive trends. During the height of the economic crisis, the proportion of employed 15-29 year-olds who are no longer in education shrank from 41% in 2008 to 36% in 2012, on average across OECD countries. Still, in 2012, 15% of individuals between the ages of 15 and 29 were neither employed nor in education or training (the "NEET" population), on average across OECD countries. OECD suggests that to improve the transition from school to work, regardless of the

economic climate, education systems should aim to ensure that individuals have the skills that are needed in the labour market. During recessions, public investment in education can be a sensible way to counterbalance unemployment and invest in future economic growth by building the needed skills, combined with incentives to employers to hire such young people.

Across countries, more than 50% of adults participate in formal and/or non-formal education in a given year; however, participation in formal and/or non-formal education is strongly related to proficiency levels in literacy, educational attainment, age group, labour force status and parents' education.

The Report addresses the issue of private versus public education explaining that it is the socio-economic factors that explain the differences. While statistically students who attend private schools, either government-dependent or independent private schools, tend to perform significantly better in the OECD Programme for International Student Assessment (PISA) surveys than students who attend public schools, students in public schools in a similar socio-economic context as private schools tend to do equally well.

Chapter D, *The learning environment and organisation of schools*, provides indicators on instruction time, teachers' working time and teachers' salaries that not only represent policy levers that can be manipulated but also provide contexts for the quality of instruction in instructional settings and for the outcomes of individual learners. It also presents data on the profile of teachers, the levels of government at which decisions about education are taken, and pathways and gateways to gain access to secondary and tertiary education.

Students in OECD countries receive an average of 7 475 hours of compulsory instruction during their primary and lower secondary education, most of these being allocated to compulsory subjects. The average primary school class in OECD countries has more than 21 students, but classes are usually larger in partner countries and slightly larger in secondary education. Remarkably, the Report does compare teachers' job satisfaction with class size. Although teachers' job satisfaction is only weakly related to class size, it does diminish when the proportion of students with behavioural problems in a class exceeds 30%, according to TALIS (Teaching and Learning International Survey) 2013 results. Moreover, the Report admits that there is also evidence that suggests a positive relationship between smaller classes and more innovative teaching practices.

Concerning how much teachers are paid, the Report notes that teachers' salaries are lagging behind those of equally educated peers in society. On average across OECD countries, pre-primary teachers earn 80% of the salary of a tertiary educated, 25-64 year-old full-time, full-year worker, primary-school teachers earn 85% of that benchmark, lower secondary teachers are paid 88%, and upper secondary teachers are paid 92% of that benchmark salary. Between 2000 and 2012, teachers' salaries rose, in real terms, in all countries with available data, with the exception of France, Greece and Japan. However, in most countries, salaries increased less since 2005 than between 2000 and 2005 and the economic downturn in 2008 also had a direct impact on teachers' salaries, which were either frozen or cut in some countries. As a consequence, the number of countries showing an increase in salaries, in real terms, between 2008 and 2012 shrinks to fewer than half of OECD countries.

Importantly, the Report analyses the correlation between teachers' salaries and student performance, reaching a significant conclusion. While in rich countries best performing systems

tend to prioritise higher teachers' salaries, across countries and economies whose GDP per capita is less than USD 20 000, a system's overall academic performance is unrelated to its teachers' salaries, possibly signalling that a host of resources (material infrastructure, instructional materials, transportation, etc.) also need to be improved until they reach a certain level, after which improvements in material resources no longer benefit student performance, but improvements in human resources (through higher teachers' salaries, for example) do.

Another key measure of teachers working lives is teaching time. Public-school teachers teach an average of 1 001 hours per year at the pre-primary level, 782 hours at the primary level, and 694 hours at the lower secondary level, and 655 hours at the upper secondary level of education. The number of teaching hours changed dramatically in a few countries: it increased by 26% in Spain at the secondary level, and decreased by almost 20% in Korea at the primary level. Regulations concerning teachers' required working time vary significantly. In most countries teachers are formally required to work a specific number of hours per year. In some, teaching time is only specified by the number of lessons per week and only assumptions may be made about the amount of non-teaching time required per lesson at school or elsewhere.

The Report confirms that teaching profession is aging: between 2002 and 2012, the proportion of secondary teachers aged 50 years or older increased by an annual growth rate of 1.3% on average across countries with comparable data. This leads to shortages and difficulties in attracting new entrants into profession. Here, the Report suggests that qualification criteria may be eased. Increasingly many countries offer pathways into the teaching profession for individuals with professional experience outside teaching and without teaching qualifications. These options, OECD argues, may be developed as a response to teacher shortages or with the aim of broadening the recruitment base.

On balance, the Report provides strong arguments for continuing teachers' professional development in the widest sense. A lifelong learning approach to teacher development is essential, it is argued, considering that expectations of staff may change over time. For example, the growing diversity of learners, the greater integration of children and students with special needs, and the increasing use of information and communication technologies all demand that teachers continuously upgrade their skills. In vocational education and training, teachers and trainers need to remain up-to-date with the changing requirements of the modern workplace.

Finally, **Annex 1** of the Report provides basic characteristics of various education systems, including length of school year, entry and graduation rates, and **Annex 2** outlines main reference statistics on economic context and teacher salaries. **Annex 3** provides insight into methodology and sources.