TUAC **Paris, 24 June 2013**

Education at Glance 2013: A renewed focus on employability

A brief summary of the key findings and some initial comments

Like previous issues **Education at Glance 2013** (***EAG 2013***), offers a rich and comparable array of indicators. The major aim is to gauge the performance of national education systems as a whole by focusing in particular on learning outcomes and their relationships to inputs and processes at the level of individuals and institutions. The indicators are intended to provide information on the human and financial resources invested in education, on how education and learning systems operate and evolve, and on the benefits of educational investments. Thus, *EAG 2013* presents education indicators within an organising framework that

• distinguishes between the actors in education systems: individual learners and teachers, instructional settings and learning environments, educational service providers, and the education system as a whole;

• groups the indicators according to whether they speak to learning outcomes for individuals or countries, policy levers or circumstances that shape these outcomes, or to antecedents or constraints that set policy choices into context; and

• identifies the policy issues to which the indicators relate, with three major categories distinguishing between the quality of educational outcomes and educational provision, issues of equity in educational outcomes and educational opportunities, and the adequacy and effectiveness of resource management.

The focus of indicators presented in "**Chapter A** on ***The output of educational institutions and the impact of learning***" is on measuring learning outcomes and the output of education systems. However, the indicators presented don't simply provide a measure of the output of education systems. At the same time they are trying to provide context for current educational policies and helping to shape polices. Indicators that are either policy levers or antecedents to policy, or sometimes both, are presented in **Chapter B** on ***Financial and human resources invested in education***. The following chapter **Chapter C** on ***Access to education, participation and progression*** provides indicators that are a mixture of outcome indicators, policy levers and context indicators. It gives particular attention to issues regarding the transition from school to work. Regrettably, however, unlike the issue of *EAG 2012*, it doesn't provide any information on the participation of adults in (non-formal) education and learning. The final chapter, **Chapter D** on ***The learning environment and organisation of schools***, provides indicators on instruction time, teachers' working time and teachers' salaries which are at the same time policy levers and thus often on the radar screens of education policy makers.

Between vocational training and tertiary education – the search of a magic bullet for high employment and better lives

Against the background of high and persisting youth unemployment in many OECD countries, it is anything but surprising to note that the editorial and some of indicators

presented in chapter A of *EAG 2013* are strongly emphasizing the supposed benefits of employability. The concept of employability is usually defined in the literature as the ability of an individual to gain and maintain employment, move between jobs within the same company or organisation, obtain new employment if required and (hopefully) secure suitable and sufficiently fulfilling work. It goes without saying that the abandonment of government policies aiming at the creation of jobs and the shift towards debt reduction and fiscal consolidation has contributed to a further rise of the employability agenda. The employability agenda shifts the responsibility for the successes and failure in the labour market towards the individual; it tries to make the unemployed believe that it is due to their insufficient employability that they can't get a job, rather than the condition of the overall labour market. Thus, unemployment, in particular youth unemployment, is increasingly blamed upon inappropriate choices by students regarding fields of study and failing education institutions.

Acknowledging that that "young people have been particularly hard-hit by un- and underemployment as a result of the global recession", the editorial by the *OECD's Secretary General Angel Gurria* stresses that "educational attainment has a huge impact on employability, and the crisis has strengthened this impact even further" by producing "ample evidence that a good education provides valuable insurance against a lack of work experience." (p 13) Moreover, the editorial also acknowledges that "countries with relatively high numbers of 25-34 year-old graduates from vocationally oriented programmes succeeded in reducing the risk of unemployment among young people with upper secondary education as their highest level of attainment. Countries that have a higher-than-average (32%) proportion of graduates from vocational programmes, such as Austria, the Czech Republic, Germany and Luxembourg, were all able to keep the increases in unemployment rates among this age group to below 8 percentage points. Conversely, countries such as Greece, Ireland and Spain, where less than 25% of young adults graduate from vocational upper secondary education, saw increases in unemployment rates of 12 percentage points or more among 25-34 year-olds with only secondary education. For young people who do not continue into tertiary education, vocational education clearly offers better prospects for their employability than general, more academically oriented upper secondary education." (p 14)

Graduating from tertiary education as the best insurance against unemployment and a disappointing work experience?

Regrettably, however, the conclusion drawn by the *OECD's Secretary General*, namely that "vocational education and training (VET) systems thus play a critical role in strengthening countries' capacity to deal with rapidly changing labour-market conditions," is not sufficiently mirrored by the indicators provided. There is just a brief, more descriptive section on trends in vocational education and training (VET) programmes as part of the analysis related to *Indicator C1: Who participates in education?* Given the renewed interest in vocational education and training (VET) programmes across many OECD member countries, indicators illustrating the output of educational institutions as well as the employment and earning benefits of learning (Chapter A) are providing a conflicting message. They are suggesting that graduating from tertiary education is in most instances the best insurance against unemployment and

a disappointing work experience – provided the fields of study are in high demand by prospective employers.

Chapter A on 'The output of educational institutions and the impact of learning' reports that over the past decades, almost all OECD countries have seen significant increases in the educational attainment of their populations. Tertiary education has expanded markedly, and in most OECD countries, an upper secondary qualification (ISCED 3) has become the most common education level attained by young people. Its key findings are as follows:

- The rate of tertiary education attainment among adults in OECD countries has increased by almost 10 percentage points since 2000.
- In most OECD countries, 25-34 year-olds have the highest rate of tertiary attainment among all adults by an average of 7 percentage points.
- Gender gaps in educational attainment are not only narrowing, in some cases, they are reversing.
- Across OECD countries, employment rates are highest among people who have a tertiary education; and these individuals are also most likely to be employed full time.
- Unemployment rates are nearly three times higher among individuals who do not have an upper secondary education (13% on average across OECD countries) than among those who have a tertiary education (5%).
- Individuals who have at least an upper secondary education have a greater chance of being employed than those without that level of education.
- Gender differences in employment rates are smallest among tertiary-educated individuals and largest among men and women who do not have an upper secondary education.
- In all OECD countries, adults with tertiary education earn more than adults with upper secondary or post-secondary non-tertiary education, who, in turn, earn more than adults with a below upper secondary education.
- In Brazil, Greece and the United States, people with below upper secondary education generally earn less than 65% of what people with upper secondary or post-secondary non-tertiary education earn.
- On average across OECD countries, the difference in earnings between younger and older workers increases with educational attainment, benefitting more educated older workers. The earnings premium for tertiary-educated 55-64 year-olds is generally larger than that for all tertiary educated workers: on average, the earnings differential increases by 16 percentage points.
- The gender gap in earnings persists, regardless of the level of education. Among OECD countries, the largest gap between men and women is among individuals with tertiary education.
- The private returns on investment in tertiary education are substantial.

- Not only does education pay off for individuals, but the public also benefits in the form of greater tax revenues and social contributions.
- The net public return on investment for a man in tertiary education is over USD 100 000 across OECD countries – almost three times the amount of public investment in that man's education. For a woman, the public return is around USD 60 000, which is almost twice the amount of public investment.

However, being in possession of skills and attitudes acquired through tertiary education is not enough. A closer inspection of the labour market situation of young graduates reveals that a tertiary education does not always bring the expected rewards. It is unsurprising that due to sluggish growth and weak employer's demand for labour, many young university graduates are facing difficulties moving into paid employment. More specifically, there is also increasing evidence suggesting that more education does not automatically prepare youth for the labour market and translate into better economic and social outcomes. What matters in this respect is not just the supply of skills, it is employers demand for and use of skills, too. Thus, a supply-side biased policy focus on employability and supposedly growing skill mismatches is inappropriate. Workforce surveys have repeatedly revealed that the issue of skills under-utilisation dwarfs the problems of skills mismatches, shortages and gaps. Recent studies focusing on the UK, provided by the Work Foundation and the UK Commission on Employment and Skills (UKCES) have reported that skill-shortages concern only about 1% of employees, skill gaps less than 10%, and skills under-utilisation between 35% and 45% of the workforce while at the same time the supply of skills exceeds demand at all levels (except at the 'no qualifications' level) and that the supply of graduates is outpacing the growth of jobs that require them. [1]

Financial resources invested in education

Chapter B on *Financial and human resources invested in education* gives particular attention to the issues of how much is spend per student, what proportion of national wealth is spent on education as well as on how much public and private investment is there. Of particular interest in this context is an analysis of the effect of the financial crisis and the subsequent depression on public spending on education. Unfortunately, however, such an analysis is not provided by *EAG 2013*. "With only 2009 and 2010 data," the report states, "it is too early to assess the full impact of the crisis on the funding of educational institutions, but its effects on the broader economy can already be observed." (p 185 f). With regard to the latter, *EAG 2013* reports that among the 30 countries with available data for the 2008-10 period, only five countries cut (in real terms) public expenditure on educational institutions: Estonia (by 10%), Hungary (by 10%), Iceland (by 12%), Italy (by 7%) and the United States (by 1%). This translated into a decrease of expenditure on educational institutions as a percentage of GDP only in Hungary, Iceland and Italy, as the decrease in expenditure was larger than the decrease in GDP. (p 186) However, an analysis issued by *Eurydice*, a network which provides information on and analyses of European education systems and policies, revealed a slightly different and in part dramatic picture.

[1] See for instance Wright, J. et. al., Employability and Skills in the UK: Redefining the debate. The Work Foundation, London 2010.

The analysis provided by *Eurydice* found, according to a text box summary in *EAG 2013*, that in 2011 and/or 2012, cuts in education budgets were made in 15 OECD countries/regions in Europe for which data are available. Cuts of more than 5% were observed in Greece, Italy, Hungary, Portugal and the United Kingdom (Wales), whereas decreases of 1% to 5% were seen in Belgium (French Community), the Czech Republic, Estonia, France, Ireland, Poland, the Slovak Republic, Slovenia, Spain and the United Kingdom (Scotland).Over the same periods, however, seven countries/regions increased their education budgets in 2011 and/or 2012 between 1% and 5% in real terms (Austria, Belgium [French Community], Finland, Iceland, Ireland, the Slovak Republic and Sweden) even if cuts were made in many of those countries during one of the periods. Belgium (German Community), Luxembourg and Turkey had a rise in real terms of more than 5%. (*EAG 2013*, Box B2.1 on page 186)

EAG 2013 reports that "while GDP rose in most countries between 2009 and 2010, public expenditure on educational institutions fell in one-third of OECD countries during that period. So while public expenditure continued to shrink in Estonia (by 4.8%), Hungary (by 3.4%), Iceland (by 8.4%) and Italy (by 3.3%) between 2009 and 2010, it was only during this period that the first impact of the financial crisis on education budgets was felt in most other OECD countries. Between 2009 and 2010 public expenditure on educational institutions decreased by 2% or less in Austria, Ireland, New Zealand, Norway, Portugal, Spain and the United States. Norway increased expenditure on educational institutions substantially in 2009 in an effort to offset the effects of the crisis, but this increase was not sustained in 2010. On average across OECD countries, public expenditure on educational institutions increased by only 1% between 2009 and 2010." (p 188) However, a note of caution is required in this respect: In countries where spending on education was maintained during the decrease of GDP, the share of GDP devoted to education rose due to statistical effects.

Other important findings on financial resources invested in education are as follows:

- On average, OECD countries spend USD 9 313 per student per year from primary through tertiary education: USD 7 974 per primary student, USD 9 014 per secondary student, and USD 13 528 per tertiary student.
- In primary and secondary education, 94% of total expenditure per student is devoted to core educational services. Greater differences are seen at the tertiary level, partly because expenditure on R&D represents an average of 31% of total expenditure per student
- From 2005 to 2010, 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 2010, investment in education fell in around one‑third of OECD countries as a result of the economic crisis.
- In 2010, OECD countries spent an average of 6.3% of their GDP on educational institutions; Denmark, Iceland, Israel, Korea, New Zealand, Norway and the United States spent more than 7%.

- Between 2000 and 2010, expenditure on all levels of education combined increased at a faster rate than GDP growth during that period in almost all countries for which data are available.
- While GDP rose (in real terms) in most countries between 2009 and 2010, public expenditure on educational institutions fell in one-third of OECD countries during that period, probably as a consequence of fiscal consolidation policies.
- Public funding accounts for 84% of all funds for educational institutions, on average across OECD countries.
- Some 92% of the funds for primary, secondary and post-secondary non-tertiary educational institutions come from public sources, on average across OECD countries; only in Chile, Korea and the United Kingdom is this share less than 80%.
- Tertiary institutions and, to a lesser extent, pre-primary institutions obtain the largest proportions of funds from private sources: 32% and 18%, respectively. Public funding on educational institutions, for all levels combined, increased between 2000 and 2010 in all countries for which comparable data are available. However, with more households sharing the cost of education, private funding increased at an even greater rate in more than three-quarters of countries.
- Education accounts for 13% of total public spending, on average across OECD countries, ranging from less than 10% in the Czech Republic, Hungary, Ireland, Italy and Japan, to more than 20% in Mexico and New Zealand.
- The proportion of public expenditure devoted to education increased between 1995 and 2005 in most countries with available data for both. Only Canada, France, Israel, Japan, New Zealand and Portugal show a different pattern.
- The proportion of public expenditure devoted to education decreased in around two-thirds of countries between 2005 and 2010, as public expenditure on education and total public expenditure did not evolve at the same pace.
- While there was no clear global trend in how the proportion of public expenditure on education evolved during the economic crisis, in 14 out of the 30 countries with available data, public expenditure on education grew at a faster rate than public expenditure on all other services between 2008 and 2010.

Some more facts: On average, OECD countries spend nearly twice as much per student at the tertiary level than at the primary level. Expenditure on pre-primary education accounts for nearly one-tenth of expenditure on educational institutions, or 0.6% of the GDP, on average across OECD countries. There are large differences among countries. For instance, expenditure on pre-primary education is less than 0.2% of GDP in Australia and Turkey, but about 1% or more in Denmark and Iceland. Primary, secondary and post-secondary non-tertiary education accounts for nearly two thirds of expenditure on educational institutions, or 3.9% of the GDP, on average across OECD countries. New Zealand and Norway spend more than 5% of their GDP on these levels of education, while the Czech Republic, Hungary, Japan, the Russian Federation and Turkey spend 3% or less. Tertiary education accounts for one-quarter of expenditure on educational institutions, or 1.6% of the GDP, on average across OECD countries. Canada, Chile,

Korea and the United States spend between 2.4% and 2.8% of their GDP on tertiary institutions.

The share of national wealth devoted to educational institutions is substantial in all OECD and G20 countries with available data. In 2010, OECD countries spent an average of 6.3% of their GDP on educational institutions; and OECD countries as a whole spent 6.5% of their combined GDP on educational institutions, taking into account both public and private sources of funds.

Expenditure on educational institutions (all levels combined) relative to GDP was greater than 6% in nearly half of the OECD and G20 countries with available data, and even above 7% in seven of them: Denmark (7.9%), Iceland (7.7%), Israel (7.4%), Korea (7.6%), New Zealand (7.3%), Norway (7.6%) and the United States (7.3%). At the other end of the spectrum, five countries spent less than 5% of their GDP on education, namely the Czech Republic (4.7%), Hungary (4.6%), Italy (4.7%), the Russian Federation (4.9%) and the Slovak Republic (4.6%).

EAG 2013 once more argues in favor of increasing private contributions to the costs of education

With regard to the analysis of public and private investment in tertiary education, *EAG 2013* once more argues in favor of increasing private contributions to the costs of education, in particular of tertiary education. "High private returns to tertiary education (see Indicator A7)", the report emphasizes, "suggest that a greater contribution to the costs of education by individuals and other private entities may be justified, as long as there are ways to ensure that funding is available to students regardless of their economic backgrounds." (p 198) However, the report does not find a common pattern across countries between the level of tuition fees and the field of education students pursue. That is also reflected by the fact that countries use different mixes of grants and loans to support students' education costs. That causes the report to discuss four different country approaches respectively models of funding tertiary education. These are countries with no or low tuition fees but generous student support systems, a group composed of the Nordic countries like Denmark, Finland, Iceland, Norway and Sweden (Model 1); countries with high tuition fees and well-developed student-support systems, like Australia, Canada, the Netherlands, New Zealand, the United Kingdom and the United States (Model 2); countries with high tuition fees but less-developed student support systems, like Chile, Japan and Korea (Model 3); and last but not least countries with low tuition fees and less-developed student-support systems, a group which includes many European countries for which data are available (Austria, Belgium, the Czech Republic, France, Ireland, Italy, Poland, Portugal, Switzerland and Spain) and Mexico (Model 4).

Teachers' salaries - a key determinant of spending on education?

Referring to the observation that governments have become increasingly interested in the relationship between the amount of resources devoted to education and student learning outcomes, the current issue of *EAG* analyses also factors influencing the level of spending on education. It finds that teachers' compensation is usually the largest part of expenditure on education and thus of expenditure per student. It also finds that

- Four factors influence expenditure on education related to the per-student salary cost of teachers: 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.
- There are large differences in the salary cost of teachers per student between countries; in most countries, the salary cost of teachers per student increases with the level of education taught.
- Between 2005 and 2011, the salary cost of teachers per student increased substantially in most countries at the primary and lower secondary levels of education. On average, it increased by more than 10% among countries with available data in both years: from USD 2 398 to USD 2 627 at the primary level, and from USD 3 473 to USD 3 818 at the lower secondary level.

Furthermore, the analysis suggests that between 2005 and 2011, among countries with available data for both years, teachers' salaries increased, on average, by more than 14% at the primary level and by nearly 11% at lower secondary level, while estimated class size decreased, on average, by 18% at the primary level and by 6% at the lower secondary level. Variations in the other two factors, instruction time and teaching time, are smaller in most countries and averaged about 3% or 4% among countries with available data for both years. (p 241) However, it is important to note, as the report points out, that the increase in the salary cost of teachers per student between 2005 and 2011 has primarily been influenced by the changes in two factors: teachers' salaries and estimated class size. It was also found that salary costs of teachers per student show a common pattern across OECD countries: they usually rise sharply with the level of education taught. However, in some countries (mainly Finland, the Netherlands and Slovenia), they are lower at the upper secondary level than at the lower secondary level. As a consequence, among OECD countries with available data for the different levels in 2011, the average salary cost of teachers per student is USD 2 757 per primary student, USD 3 456 per lower secondary student and USD 3 420 per upper secondary student, slightly lower than that per lower secondary student. (p 243)

However, given the fact that fiscal consolidation and austerity policies have caused many governments to cut wages and salaries in the public sector, it is somewhat puzzling to note that *EAG 2013* reports that teachers' salaries increased in real terms in most countries with comparable data for 2005 and 2011.

Access to and participation in education

With regard to the fact that education has become a strong determinant of occupational status, earnings, social mobility and the type of life chances individuals experience, it is important to analyse access to and participation in education. Such an analysis is being provided by chapter C. The chapter reports that education systems in OECD and most G20 countries now provide universal access to basic education, such that both pre-primary and upper secondary education are becoming universal in most countries and that upper secondary education has become the minimum qualification for a smooth and successful transition into the labour market, and lowers the risk of unemployment. Although successful completion of upper secondary programmes is vital for addressing equity issues, completion rates vary widely among OECD countries. *EAG 2013*

pemphazises that efforts to expand this level of education further are essential as in most OECD countries upper secondary education is the last phase of compulsory education that equips students with the minimum knowledge and skills needed to enter the labour market.

With regard to participation in education, the chapter finds that

- Access to education for 5-14 year-olds is universal in all OECD and other G20 countries with available data.
- In 2011, enrolment rates among 15-19 year-olds were greater than 75% in 31 of the 39 OECD and G20 countries with available data.
- More than 20% of 20-29 year-olds in all OECD countries, except Mexico and the United Kingdom, participated in education in 2011.
- From 1995 to 2011, enrolment rates among 20-29 year-olds increased by more than 10 percentage points on average across OECD countries with available data.
- Under 2011 enrolment conditions, a 5-year-old in an OECD country can expect to participate in more than 17 years of full-time and part-time education, on average, before reaching the age of 40. The expected duration of education ranged from 14 years in Luxembourg (where student mobility is high) and 15 years in Mexico to more than 19 years in Finland, Iceland, Denmark and Sweden.
- Across OECD countries in 2011, at least 90% of the population participated in an average of 13 years of formal education. Fifteen out of 33 countries with available data were above this average whereas 9 of those 33 countries were below the average.

A missing indicator: The participation of adults in education and learning

Chapter C looks also into the transition from school to work. The analysis is guided by the question where are the 15-29 year-olds? It reports that governments' efforts to improve educational attainment among their populations have resulted in significant changes in participation in education over the years. In 2000, an average of 41% of 15-29 year-olds in OECD countries were in education; by 2011, that proportion had grown to 47%. During the same period, the proportion of 15-29 year-olds not in education but employed fell from 44% to 37%. While the percentage of individuals in education increased steadily between 2000 and 2011, trends in youth employment have been marked by two periods of large drops: between 2000 and 2003 (-3.3 percentage points) and between 2008 and 2011 (-3.7 percentage points). These decreases in youth employment coincided with the burst of the so-called "Internet bubble" (2000-03) and the burst of the real estate bubble in 2008. The share of 15-29 year-olds neither employed nor in education or training (NEET) remained stable at around 15% between 2000 and 2011. (p 327)

Regrettably, however, unlike the previous issue, *EAG 2013* does not provided any detailed analysis on the participation of adults in education and learning. Given that adult learning is to a large extend characterized by inequality of access, which is skill, gender and aged biased, it is hard to understand why *EAG 2013* refrains from shedding some light on adult learning and workforce development. Skill development across the whole

workforce, which is of great importance in order to enable companies to move up the value-chain and to avoid that parts of an economy become trapped in a vicious circle of low value added, low skills and low-wages, is primarily the responsibility of employers. In order to monitor how serious they are about their obligation in this respect, to prevent them from blaming others for their own failures, in particular students and educational institutions, an indicator on the participation of adults in education and learning is desperately needed.

The learning environment and organisation of schools

The final and shortest chapter of *EAG 2013* focuses on the time students spend in the classroom (Indicator D1), the student-teacher ratio and the size of classes (Indicator D2), on teachers' pay (Indicator D3) as well as on the time teachers spend teaching (Indicator D4). Starting point of the analysis is the observation that countries make various choices concerning the overall amount of time devoted to instruction and which subjects are compulsory. These choices reflect national and/or regional priorities and preferences concerning what material students should be taught and at what age. Countries usually have statutory or regulatory requirements regarding hours of instruction. These are most often stipulated as the minimum number of hours of instruction a school must offer, and are based on the understanding that sufficient teaching time is required for good learning outcomes. The report finds in this respect the following:

- Students in OECD countries are expected to receive an average of 7 751 hours of instruction during their primary and lower secondary education, and most of that intended instruction time is compulsory.
- On average across OECD countries, instruction in reading, writing and literature, mathematics and science represents 51% of the compulsory instruction time for primary school students and 41% of the compulsory instruction time for lower secondary school students.
- In OECD countries, compulsory instruction time for primary students averages 791 hours per year and intended instruction time averages 802 hours per year. Lower secondary students receive an average of 116 more hours of compulsory education per year, and 122 more hours of intended instruction per year than primary students.
- The proportion of the compulsory curriculum that is devoted to reading, writing and literature ranges from 15% in Indonesia to 38% in Hungary for primary students; for lower secondary students, it ranges from 11% in Japan and Portugal to 24% in Ireland.
- Primary students in all reporting OECD countries spend the largest share of time studying reading, writing and literature; in most of these countries the second largest share of time is spent studying mathematics. In around one-third of the countries with available data, lower secondary students also spend the largest share of time studying reading, writing and literature; but in 9 countries, students spend the largest proportion of the compulsory core curriculum studying modern foreign languages. In Luxembourg and Denmark, lower secondary students spend more than 20% of compulsory instruction time studying modern foreign languages.

• In OECD countries, an average of 6% and 7% of compulsory instruction time for primary and lower secondary students, respectively, is devoted to the flexible part of the curriculum.

EAG 2013 doesn't consider smaller classes as particularly beneficial

EAG 2013 rightly notes that class size and student-teacher ratios are much-discussed aspects of education and are among the determinants of the size of countries' teaching force. Together with teachers' salaries and the age distribution of teachers, class size and student-teacher ratios also have a considerable impact on the level of current expenditure on education. According to *EAG 2013* "smaller classes are often seen as beneficial because they allow teachers to focus more on the needs of individual students and reduce the amount of class time needed to deal with disruptions. Yet, while there is some evidence that smaller classes may benefit specific groups of students, such as those from disadvantaged backgrounds, overall, evidence of the effect of differences in class size on student performance is weak. TALIS does not provide further evidence of a direct and strong relationship between class size and time devoted to teaching and learning." (p 364) With regard to class size and student-teacher ratios the key findings are as follows:

• The average primary school class in OECD countries has more than 21 students, but classes are usually larger in G20 countries that are not OECD members.

• Primary school classes have tended to become smaller between 2000 and 2011, especially in countries that had relatively large classes, such as Korea and Turkey.

• On average across OECD countries, the number of students per class grows by two or more students between primary and lower secondary education.

• In 27 of the 30 countries with available data, the student-teacher ratio decreases between the primary and lower secondary levels, despite a general increase in class size between these levels. This decrease in the student-teacher ratio reflects differences in annual instruction time for students, which tends to increase with the level of education.

• On average across OECD countries, the student-teacher ratio in secondary education is slightly more favourable in private than in public institutions. This is most striking in Mexico where, at the secondary level, there are nearly 17 more students per teacher in public than in private institutions. On average across OECD countries, there is at most one student more per class in public than in private institutions at the primary and lower secondary levels.

• Class size varies significantly within countries. The difference between the smallest and largest classes is as large as 30 students in Brazil, Iceland, Malaysia, Mexico and Turkey.

Cutting teachers salaries puts the quality of education at risk

EAG 2013 notes that unsustainable levels of national debt in line with the switch towards austerity policy have put pressure on policy makers to reduce government expenditure – particularly on public payrolls. However, in order to ensure quality teaching and sustainable education budgets, cutting teachers' salary is not the way forward. Teachers'

salaries and working conditions are important determinants of attracting, developing and retaining skilled and high-quality teachers. Thus, lowering teachers' salary could undermine the provision of quality education. Looking at the data provided by *EAG 2013*, it seems that policy makers across OECD member countries have taken up the message. Here are some of the key findings:

- The statutory salaries of teachers with 15 years of experience average USD 36 135 at the pre‑primary level, USD 38 136 at the primary level, USD 39 934 at the lower secondary level, and USD 41 665 at the upper secondary level.
- On average across OECD countries, pre-primary teachers earn 80% of the salary of a tertiaryeducated, 25-64 year-old full-time, full-year worker, primary-school teachers earn 82% of that benchmark, lower secondary teachers are paid 85%, and upper secondary teachers are paid 89% of that benchmark salary.
- In most OECD countries, teachers' salaries increase with the level of education they teach. For example, in Belgium, Denmark, Finland, Hungary, Indonesia, Poland and Switzerland, the salary of an upper secondary school teacher with 15 years of experience is at least 25% higher than that of a pre-primary school teacher with the same experience.
- Salaries at the top of the scale are, on average, 58%, 59%, 61% and 62% higher, respectively, than starting salaries in pre-primary, primary, lower secondary and upper secondary education, and the difference tends to be greatest when it takes many years to progress through the scale. In countries where it takes 30 years or more to reach the top of the salary scale, salaries at that level are on average of 78% higher than starting salaries.
- Teachers with maximum qualifications at the top of their salary scales are paid, on average, USD 47 243 at the pre-primary level, USD 49 609 at the primary level, USD 52 697 at the lower secondary level, and USD 53 449 at the upper secondary level. However, the salary premium for higher qualifications varies. In Israel, Mexico, Poland and Slovenia, for example, primary teachers who hold the maximum qualification earn at least 30% more than primary teachers with similar experience, but who hold the minimum qualification. However, in around 40% of countries there is no difference.

However, looking beyond aggregate data a different picture emerges. That applies in particular with regard to the effect of the great depression upon teachers' salaries. Salaries were, as *EAG 2013* reports, significantly affected by the crisis in Estonia, Greece, Hungary, Ireland and Spain. In Estonia, minimum teachers' salaries were cut back to their 2008 levels in 2009 and have been frozen at that level ever since. In Greece, various reductions in teachers' benefits and allowances affected teachers' salaries in 2010 and 2011. As a result, gross salaries fell by 17%, in real terms, between 2009 and 2011. In addition, Greek teachers also saw their net salaries shrink as a tax for solidarity was created. This tax increased the level of taxation on teachers' already reduced gross salary; and the insurance coverage paid by teachers is still calculated based on their earlier, higher salaries. In Hungary, the 13th month of salary (a supplemental bonus that was paid to all employees) was suspended in 2009. Although a compensatory bonus was paid to all public-sector employees whose wages where under a certain threshold, the base salary of teachers was still considerably affected. In Spain, all civil servants saw their salaries

reduced in July 2010. The extent of the decrease depended on the annual amount earned but it affected both the base salary and bonuses. In Ireland, teachers' salaries were reduced as of 1 January 2010 as part of a public service-wide reduction in pay. In addition, teachers who entered the profession after 1 January 2011 are paid according to a new salary scale which is 10% lower than the salary scale that applied to those recruited prior to that. In other countries, similar measures were implemented after 2011. (Box D3.2, p. 385) It remains to be seen how the economic crisis is going to impact on the future supply of teachers. Prospects don't seem to look as bright as earlier research has indicated; given the fact that the pressure upon public service is not going to go away; thus high unemployment among graduates and low graduate earnings might not make teaching a particular attractive job choice compared to other occupations.

Teaching time

The final part of chapter four, focusing on the time teachers do spend on teaching, provides further measures regarding the working live of teachers. The reported trends regarding the working time don't indicate an improvement of the quality of working life of teachers. Although the report is rather cautious in this respect, there is evidence suggesting that in most countries with a significant change, teaching time increased over this period. In Israel and Japan, there was a 15% increase in teaching time at the primary level between 2000 and 2011. In Israel, this increase in teaching and working time is part of the "New Horizon" reform that has been gradually implemented since 2008. One of the key measures of this reform was to lengthen teachers' workweek to accommodate small-group teaching in exchange for more generous compensation. Teachers' working time has been increased from 30 to 36 hours per week and now includes five hours of small-group teaching in primary schools. To compensate, salaries have been raised substantially. Secondary school teachers in Portugal and Spain were required to teach over 25% more in 2011 than in 2000 (up to 50% more in Portugal at the upper secondary level); in Luxembourg, secondary school teachers were required to teach 15% more hours in 2011 than in 2005. Teaching time also increased by around 15% at the upper secondary level in Korea and Iceland.

Although a substantial component of teachers' workload, a focus on teaching time alone provides a misleading picture of the workload of teachers. Non-teaching time includes important tasks as assessing students, preparing lessons, corrections, in-service training and staff meetings. The report notes that the amount of time available for these non-teaching activities varies across countries, and a large proportion of statutory working time spent teaching may indicate that less time is devoted to activities such as assessing students and preparing lessons.

The indicator on 'How much time do teachers spend teaching?' provides the following key findings:

- The average number of teaching hours in public pre-primary schools is 994 hours per year, but ranges from 450 hours in Indonesia to over 1 500 hours in Iceland, Norway and Sweden.
- Public primary school teachers teach an average of 790 hours per year, but teaching time ranges from less than 600 hours in Greece and the Russian Federation to over 1 000 hours in Chile and the United States.

- The number of teaching hours in public lower secondary schools averages 709 hours per year, but ranges from 415 hours in Greece to over 1 000 hours in Argentina, Chile, Mexico and the United States.
- Teachers in public upper secondary schools teach an average of 664 hours per year, but ranges from 369 hours in Denmark to 1 448 hours in Argentina.
- Public-school teachers teach an average of 994 hours per year at the pre-primary level, 790 hours at the primary level, 709 hours at the lower secondary level, and 664 hours at the upper secondary level of education.
- In almost half of the countries with available data, the amount of teaching time increased or decreased by at least 10% between 2000 and 2011 in primary, lower secondary and/or upper secondary education.
- On average, pre-primary teachers are required to teach almost 30% more hours than primary school teachers, but the time during which teachers are required to be working at school, or their total working time, is often equivalent for these two levels of education.
- 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 assumptions may be made about the amount of non-teaching time required per lesson at school or elsewhere.