Paris, 7 September 2007

Education at a Glance 2010 - the performance of education systems prior to the Great Recession

A summary of some of the recent OECD indicators on education

International comparisons of the performance of national education systems are high on the agenda of governments, educational policy makers and practitioners as well as of trade unions. Thus, they are particularly interested in the development and analysis of internationally comparable indicators, as provided by the OECD. The annual publication of the organization *Education at a Glance* aims to provide a rich, comparable and up-to-date array of indicators on the performance of education systems. It claims to represent the consensus of professional thinking on how to measure the current state of education internationally.

Education at a Glance - the application of an economic calculus to education and learning outcomes

Thus, in line with previous issues, *Education at a Glance 2010* examines the quality of learning outcomes, the policy levers and contextual factors that shape these outcomes, and the broader private and social returns that accrue to investments in education. It gives particular attention to the output of educational institutions and the impact of learning upon employment and earnings (chapter A), to financial and human resources invested in education (chapter B), to access to, participation and progression in education (chapter C) as well as to the learning environment and organization of schools (chapter D). Altogether, *Education at a Glance 2010* provides a comprehensive set of 26 indicators.
The underlying approach of many of the indicators reflects the economics of education, in particular human capital theory, which analyses education from an economic perspective with a focus on issues such as the demand for education, the financing and provision of education as well as on its private and social benefits. Human capital in this context refers to the sum of abilities and knowledge of individuals. It intends to measure the skill-specific quality of labour supplied and can be accumulated through education, further education and experience. Furthermore, human capital theory assumes that undertaking education is an investment in the acquisition of skills and knowledge which will in turn improve employability and increase earnings. The application of an economic calculus to learning outcomes, is clearly reflected in the following indicators provided and discussed in detail by *Education at a Glance 2010*:

How does educational attainment affect participation in the labour market? (A6)

What are the economic benefits of education? (A7)

What are the incentives to invest in education? (A8)

What are the economic links with education? (A10)

What proportion of national wealth is spent on education? (B2)

How much public and private investment is there in education? (B3)

How much do tertiary students pay and what public subsidies do they receive? (B5)

What school choices are available and what measures do countries use to promote or restrict school choice? (D5)

The output of educational institutions: some good news

Education at a Glance 2010 reveals that on average across OECD countries, less than one-third of adults (29%) have only primary or lower secondary education, 44% have upper secondary education and 28% have a tertiary level qualification. However, countries differ widely in the distribution of educational attainment across their populations.
In 25 out of 30 OECD countries – as well as in the partner countries Estonia, Israel, the Russian Federation and Slovenia – 60% or more of the population aged 25 to 64 has completed at least upper secondary education. On average across OECD countries, the proportion of 25-34 year-olds with at least upper secondary education is 22 percentage points higher than that of 55-64 year-olds. The change has been particularly dramatic in Belgium, Chile, Greece, Ireland, Italy, Korea, Portugal and Spain. In almost all countries, 25-34 year-olds have higher tertiary attainment levels than the generation about to leave the labour market (55-64 year-olds). On average across OECD countries, 35% of the younger cohort has completed tertiary education, compared with 20% of the oldest cohort, while the average for the total population of 25-64 year-olds is 28%.

The participation of adults in education and learning – persisting inequalities

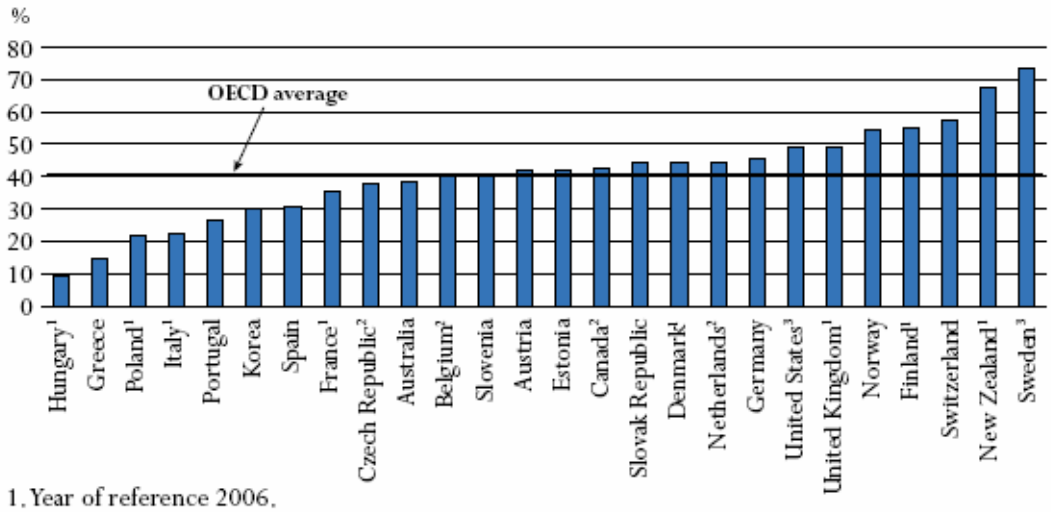
Data provided with regard to the extent to which adults seek information on learning possibilities and how they participate in lifelong learning don’t give a reason for complacency. A close inspection of a broad range of determinants of participation in education like previous educational attainment, age and gender, labour force status, and characteristics of the workplace point to the persistence of equity issues with regard to access to training. Across the OECD, more than 40% of the adult population participates in formal and/or non-formal education in a given year. However, differences in participation in adult learning according to the age and gender of the participants are particularly pronounced: in most countries the youngest cohort of 25-34 year-olds participates the most in formal and/or non-formal education and in all countries the oldest cohort of 55-64 year-olds participates the least. Moreover, a striking and common pattern was found: participation rates vary according to prior levels of educational attainment. Participation in formal and/or non-formal education is 20 percentage points higher for individuals who have attained tertiary education than for those with upper secondary or post-secondary non-tertiary education. Also workplace aspects such as industry and occupation strongly influence participation in adult learning. Across the OECD, 61% of those employed in high-skilled white collar

occupations engage in adult education, the rate drops to 46% in low-skilled white collar occupations, to 34% in high-skilled blue collar occupations and then to 32% in low-skilled blue collar occupations. Somewhat less pronounced; differences in participation rates of males and females in formal and/or non-formal education are generally small and are 5 percentage points or greater only in eight countries.

Chart A5.1. Participation in formal and/or non-formal education (2007)

This chart shows the participation of the 25-64 year-old population in formal and/or non-formal education in 2007.

Investment in education and training after leaving initial education is essential for upgrading labour force skills and increasing overall skill levels in the economy. Participation rates indicate how far-reaching such investment is in different countries. Across the OECD, more than 40% of the adult population participates in formal and/or non-formal education in a given year. Countries differ significantly, however. In New Zealand and Sweden, more than 60% of the population is involved in some sort of formal and/or non-formal education over the course of a year, whereas in Hungary and Greece less than 15% of the population is engaged.

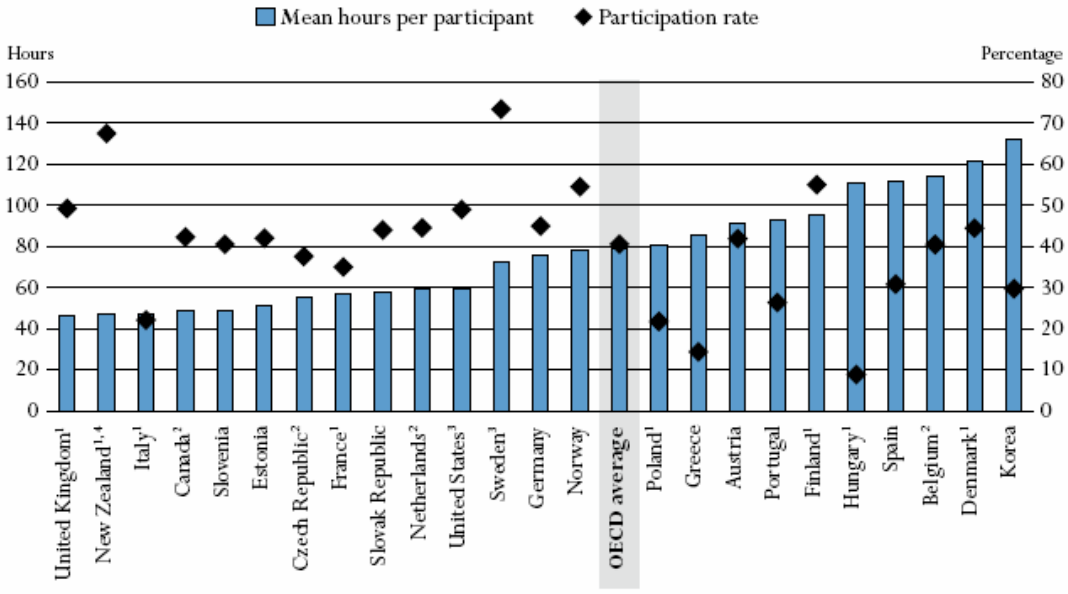


1. Year of reference 2006.
2. Year of reference 2008.
3. Year of reference 2005.

Countries are ranked in ascending order of participation in education.

The data clearly suggest that there is a strong need for improving both access to formal and non-formal job-related education and training as well as for increasing the time devoted to further training. On average, two-thirds of all participants in formal and/or non-formal education participate in job-related non-formal education. The share of job-related participants is four out of five or more in the Czech Republic, Finland, France, Germany, the Netherlands, Norway, the Slovak Republic and Sweden. Less than three out of five participants engage in job-related non-formal education in Australia, Denmark, Korea, New Zealand and Switzerland. In all countries the employed have higher participation rates in job-related non-formal education than the unemployed. The mean hours of instruction range from more than 100 in Belgium, Denmark, Hungary, Korea and Spain to less than 50 in Canada, Italy, New Zealand, the United Kingdom and the partner country Slovenia. In all countries except Canada and Denmark, unemployed participants spend more time in instruction than employed participants.

Chart A5.5. Mean hours per participant and participation in non-formal education (2007)



1. Year of reference 2006.
2. Year of reference 2008.
3. Year of reference 2005.
4. Excluding adults who participated only in "short seminars, lectures, workshops or special talks".
Countries are ranked in ascending order of the mean hours per participant in non-formal education.

The gap between the rhetoric on education and policy has not been closed

In the editorial of *Education at a Glance 2010* OECD Secretary General Angel Gurria points out that education is a large item of public expenditure in most countries. However, the data provided on spending on education highlight once more that governments have failed to act in line with the education mantra. The increase in spending on educational institutions between 1995 and 2007 in more than half of the 27 OECD and partner countries for which data are available did not keep up with growth in national income. Expenditure for all levels of education combined increased at a faster rate than GDP only in 10 of the 27 countries. The increase exceeded 0.8 percentage point over the period in Chile (5.1% to 6.4%), Denmark (6.2% to 7.1%), the United States (6.6% to 7.6%) and the partner country Brazil (3.7% to 5.2%). Across the OECD countries spend on average 6.2% of their collective GDP on educational institutions.

On average in OECD countries over 90% of primary, secondary and post-secondary non-tertiary education, and never less than 80% (except in Chile, Korea and the United Kingdom), is paid for publicly. However, in tertiary education the proportion funded privately varies widely, from less than 5% in Denmark, Finland and Norway, to more than 40% in Australia, Canada, Japan, the United Kingdom, the United States and the partner countries Israel and the Russian Federation, and to over 75% in Chile and Korea. It is important to emphasize that in all countries for which comparable data are available, public funding on educational institutions, all levels combined, increased between 2000 and 2007. Private spending increased at an even greater rate in more than three-quarters of countries.

Chart B2.1. Expenditure on educational institutions as a percentage of GDP, for all levels of education (1995, 2000, 2007)

This chart shows educational investment as the proportion of national income that countries devoted to spending on educational institutions in 1995, 2000 and 2007. It includes direct and indirect expenditure on educational institutions from both public and private sources of funds.

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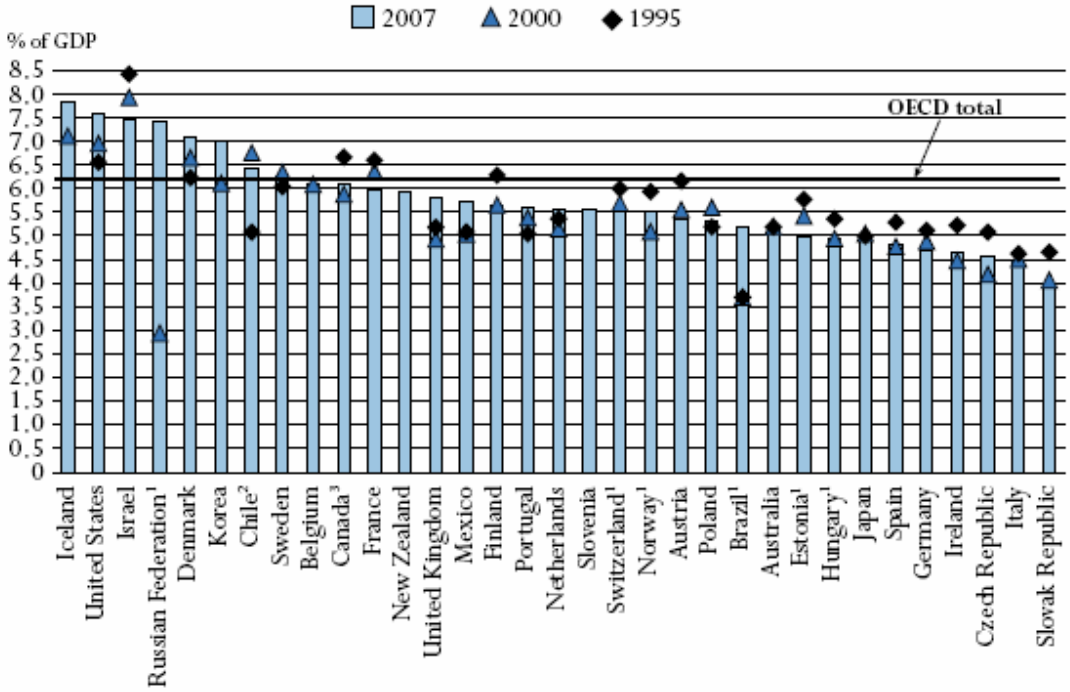


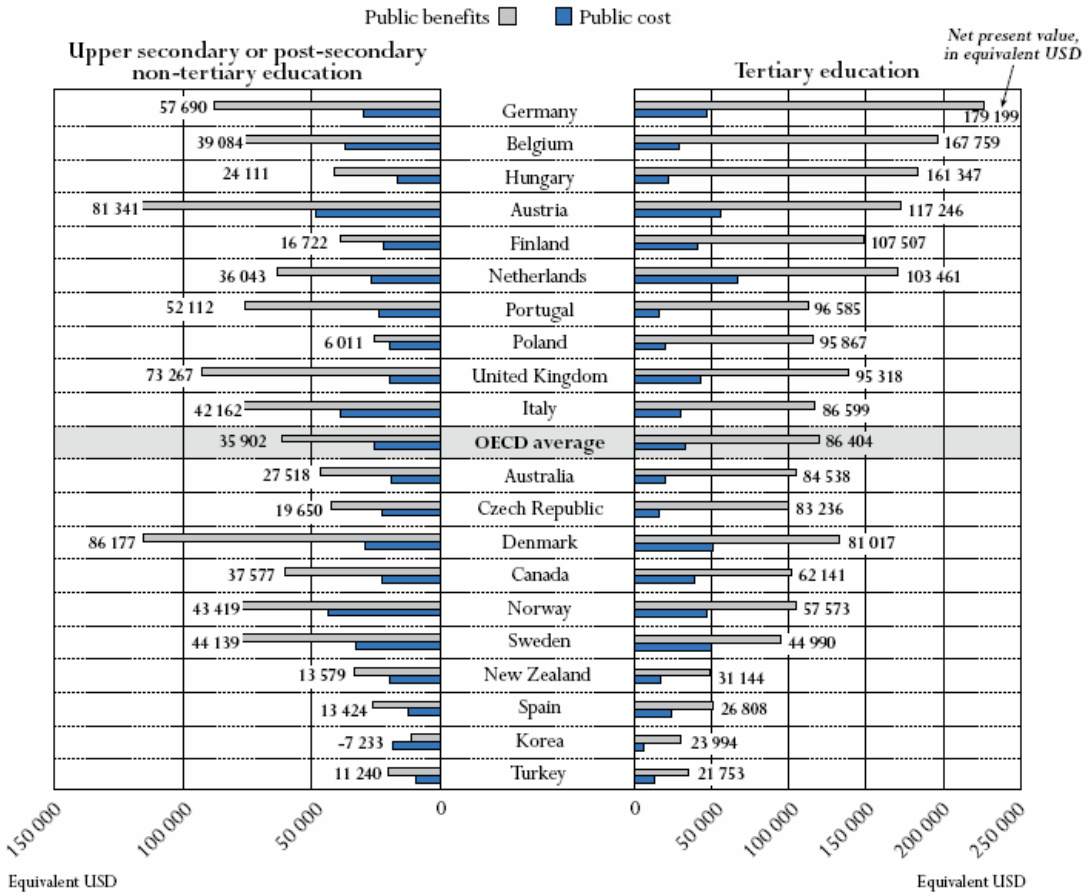
1. Public expenditure only (for Switzerland, in tertiary education only).
2. Year of reference 2008 instead of 2007.
3. Year of reference 2006 instead of 2007.

Countries are ranked in descending order of expenditure from both public and private sources on educational institutions in 2007.

Public spending on education pays off

The editorial of *Education at a Glance 2010* notes significantly "that public resources invested in education ultimately pay off in even greater tax revenues." However, as many benefits of education are not appropriately reflected in tax income it seems to be fair to assume that the social benefits of public spending on education are rather underestimated by the efforts to determine a public rate of return to investment into education. *Education at a Glance 2010* reports that "With few exceptions the public returns to investments in upper secondary or post-secondary non-tertiary education are positive. On average across OECD countries, upper secondary or postsecondary non-tertiary education generates a net return of USD 36 000 and in Austria, Denmark, Germany, Portugal and the United Kingdom the figure is above USD 50 000."

Chart A8.5. Public cost and benefits for a male obtaining upper secondary or post-secondary non-tertiary education and tertiary education (2006)



Note: Korea refers to 2003, Ireland and Spain to 2004, Australia, Belgium and Turkey to 2005. All other countries refer to 2006.
Cash flows (components) are discounted at a 3% interest rate.
Countries are ranked in descending order of the public net present value obtaining tertiary education.

Not surprisingly the report finds that "public returns to tertiary education are substantially higher than to upper secondary or post-secondary non-tertiary education, in part because a larger share of the investment costs are borne by the individuals themselves. The main factors are, however, the higher taxes and social contributions that flow from the higher income levels of those with tertiary qualifications. In Belgium, Germany and Hungary these benefits exceeds USD 160 000 over an individual's working life. On average across countries, the net public return from an investment in tertiary education is USD 86 000 for a male, when accounting for the main costs and benefits at this level of education. This is almost three times the amount of public investment in tertiary education across OECD countries, and as such, provides a strong incentive for governments to expand higher education." Hence, the report concludes that "public investments in education, particularly at the tertiary level, are rational even in the face of running a deficit in public finances" and that "there seems to be room for additional expansion of higher education" by public financing. The report also points to a way to finance education under budget constraints: "Issuing government bonds to finance these investments will yield significant returns and improve public finances in the longer term."

Positive social outcomes of education are welcome but not sufficient for social cohesion

In order to determine social outcomes of education *Education at a Glance 2010* examines the relationship between educational attainment and social well-being for 24 OECD countries and 3 partner countries. It focuses on three outcomes, self-assessed health, political interest and interpersonal trust, and evaluates how they vary across levels of educational attainment, with and without adjustments made for individual differences in gender, age and income. It finds that educational attainment is positively associated with self-reported good health, political interest and interpersonal trust. That applies in particular to adults with higher levels of educational attainment; they are generally more likely than those with lower levels of attainment to report that their health is at least good, that they are at least fairly interested in politics. Moreover, they and believe that most people can be trusted.

The section on social outcomes of education rightly notes that education can foster the cognitive skills, self-efficacy and resilience necessary for civic and social engagement. However, in order to effectively ensure social cohesion, economic pressures shaping education must be balanced by societal interests.

The link between education and economic outcomes

The view that human capital is a key engine for growth is broadly shared among economists and policy makers. It is behind the effort of *Education at a Glance 2010* to give a closer look to the links between education and economic outcomes. In doing so, the report assumes that workforce skills and the price of these competencies are the basis for competing in the global arena. Thus, labour costs by levels of skills (respectively educational attainment) are examined. It is not surprising that the report finds that labour costs vary substantially between skill levels and among countries. It was found that

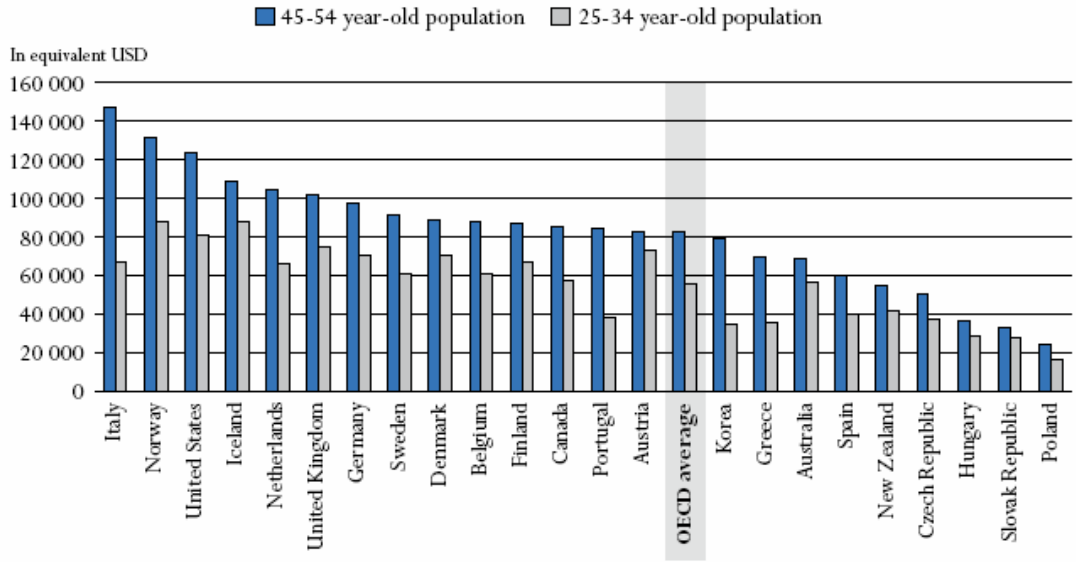
- On average across the OECD area, annual labour costs for those with below upper secondary education are USD 40 000 for males and USD 29 000 for females (25-64 year-old population). These costs increases at upper secondary level (ISCED 3/4) to USD 48 000 for males and USD 36 000 for females. The large rise in labour costs, however, is for high-end skills. On average employers pay USD 74 000 for a tertiary-educated male and USD 53 000 for a female with the same level of education.
- A few countries with overall higher cost levels show decreasing labour costs with higher educational levels. Compared to other OECD countries, individuals with higher education are less expensive to employ than those with lower levels of education in Belgium, Denmark, Finland and Sweden.
- Annual labour costs for high-end skills vary substantially and range from less than USD 20 000 for a recent male tertiary graduate (25-34 year-olds) in Poland to over USD 140 000 for an experienced (45-54 year-olds) male worker with tertiary education in Italy. On average across the OECD, an employer can expect to pay for an experienced male tertiary graduate a further USD 27 000 per year.

- There is a link between the cost of tertiary graduates and the net flow of foreign direct investment (FDI). Countries with relatively inexpensive labour costs for individuals with higher education attract more investment. The Czech Republic, Hungary, New Zealand, Poland and the Slovak Republic have succeeded in capitalising on this cost advantage and registered a net FDI flow of more than 2% of GDP between 2003 and 2008.

It was also found that "a few countries with overall higher cost levels show decreasing labour costs with higher educational levels. In an OECD perspective, individuals with tertiary education are less expensive to employ than their counterparts with less education in Belgium, Denmark, Finland and Sweden. Strong labour unions may explain these results to some extent." In other countries, among them Germany, Iceland, Italy, Norway, the Netherlands, the United Kingdom and the United States, annual labour costs were found to be higher than the OECD average by some USD 20 000 or more. The report attributes that to an overall higher cost structure and higher productivity levels.

Chart A10.3. Annual labour costs employing a recent *versus* experienced male tertiary graduate

Annual labour costs in equivalent USD of employing a recent tertiary graduate (25-34 year-olds) and a graduate with 20-30 years of work experience (45-54 year-olds) across OECD countries



Note: Australia refers to 2005. Austria, Belgium, Denmark, Greece, Iceland, Italy, the Netherlands, Poland, Portugal and Sweden refer to 2006. Canada, Finland, Korea, Spain refer to 2007. The other countries refer to 2008.
Countries are ranked in descending order of annual labour costs employing an experienced tertiary graduate.

Regrettably, however, the effort undertaken to link education to economic outcomes is not comprehensive. It does not provide a better comprehension of the role of human capital with respect to economic outcomes and technological progress. Using labour costs as a proxy to measure the stock and the contribution of human capital to economic growth appears to lag behind the main approaches which have been used in the economic literature in order to measure human capital. Moreover, the analysis assumes that skills, once acquired, will automatically be utilised to productive effect. In practice, however, the extent to which this happens depends upon range of factors.

Among the latter are firms' strategies with regard to competition and product markets as well as approaches to job design and human resources management. Moreover, although a well-educated workforce is an important determinant for foreign investment location decisions, the analysis tends to mistake correlation with causality. The empirical evidence in the literature in support of the hypothesis that the level of human capital in host countries is a key determinant of the geographical distribution of FDI is scant. Thus, more analytical work in this area seems to be warranted.

It is interesting particularly challenging from a trade union perspective that some findings of *Education at a Glance 2010* point to persisting wage gap with regard to gender and age. The gender wage gap is particularly large with regard to tertiary education: Across the OECD employers pay on average USD 74 000 for a tertiary educated male and USD 53 000 for a female with the same level of education. A similar gap also exists with regard to the cost of employing recent and experienced tertiary graduates. According to the report, an employer has to pay on average quite a substantial "experience premium" of about "USD 27 000 per year for an experienced male tertiary graduate" which is interpreted by the report as "an indication of the additional value of labour market experience for the productivity and versatility of more highly educated individuals." That, however, is in a striking contrast to findings regarding the bumpy transition from education to work as experienced by man youth.

Transition between school and work – a bumpy process

In order to better understand interactions between school and work, a specific indicator (C3) analyses unemployment, non-employment, temporary and part-time work, as well as educational attainment and occupation matches. The data provided doesn't take into account effects of the global jobs crisis on the transition from education to work an on youth employment. Nevertheless, the information provided point to ongoing challenges regarding employment, labour market and vocational training policies. The conclusions are in line with existing findings:

- High general unemployment rates make the transition substantially more difficult. Moreover, those entering the labour market for the first time typically experience higher unemployment rates than those with more work experience.
- General labour market conditions also influence the schooling decisions of younger individuals: when labour markets are poor, younger individuals tend to increase enrolment in education and remain in education longer.
- Foreign born youth experiences a particular risk of being excluded from the labour market if their skills don't go beyond upper secondaty level of education.
- On average, completion of upper secondary education reduces unemployment among 20-24 year-olds by 8.3 percentage points and among 25-29 year-olds by 5.3 percentage points. The lack of an upper secondary qualification is clearly a serious impediment to finding employment.
- Entering the labour market can often be difficult for individuals even if they find work. Young individuals sometimes have to fill vacancies below their skill (educational) level, take temporary jobs, or work less than they would like in order to gain a foothold in the labour market.

Conclusion

The economic crisis has not left education and education institutions unaffected. On the contrary, educational institutions like schools or universities, but also students, and teachers have been severely affected by the crisis. With regard to increasing budget constraints faced by education policy makers, it is welcome that the 2010 issue of *Education at a Glance* provides compelling evidence on the economic and social benefits of public spending on education und thus offers valuable arguments against cutting education budgets. Regrettably, however, *Education at a Glance 2010* does not provide a particular focus on the impact of the crisis on educational institutions and outcomes of education. It is important that the next issue provides a serious and detailed assessment of the impact of the crisis.

TUAC would argue that the focus on changes in the skills available must be complemented by a close inspection on how skills are being used. Particular attention must be given to the ‘investment in human resources’ by companies and the responsibilities of employers with regard to vocational training and lifelong learning.