A corrigendum has been issued for this page. See: http://www.oecd.org/dataoecd/43/33/46131885.pdf

INDICATOR A8

WHAT ARE THE INCENTIVES TO INVEST IN EDUCATION?

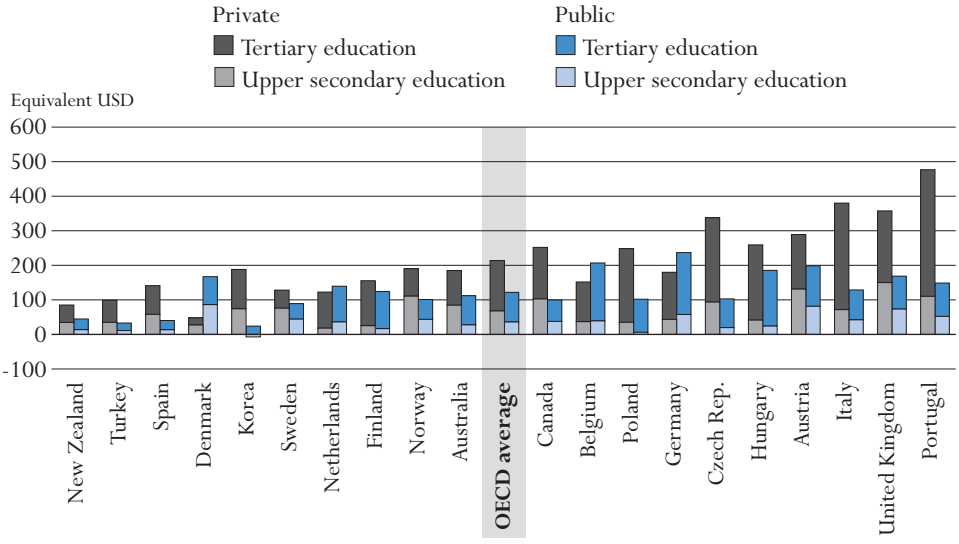
This indicator examines incentives to invest in education by estimating the value of education in 20 OECD countries. The financial returns to education are calculated for investments undertaken as a part of initial education and account for the main costs and benefits associated with this investment decision. The discounted values of private and public investments in education are given for upper secondary or post-secondary non-tertiary and tertiary education.

Key results

Chart A8.1. Private and public economic returns for a male obtaining an upper secondary or post-secondary non-tertiary education, ISCED 3/4, and obtaining a tertiary education, ISCED 5/6, as part of initial education (2006)

This chart depicts the present value of an investment's future cash flows net of the initial investment, discounted at a 3% real interest rate.

Investments in education generate substantial financial rewards in all OECD countries. Additional education beyond compulsory schooling produces large returns from both an individual's and a public perspective. The total return (private and public) for a male completing upper secondary education and successfully completing a tertiary degree exceeds USD 500 000 in Italy, Portugal and the United Kingdom. On average across OECD countries, the total return exceeds USD 335 000. The rewards to individuals for tertiary education are on average substantially higher (USD 145 000) than for upper secondary education (USD 68 000). This reflects the fact that an upper secondary education has become the norm in OECD countries. In some countries, individuals need to obtain tertiary education to reap the full financial rewards of education beyond compulsory schooling.



Note: Korea refers to 2003, 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 ascending order of the total (private + public) net present value for males immediately acquiring a level of education (upper secondary + tertiary).
Source: OECD. Tables A8.1, A8.2, A8.3 and A8.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

Other highlights of this indicator

- Even if tertiary education brings more economic benefits, the gross earnings premium exceeds USD 200 000 over the working life of a male with an upper secondary education or post-secondary non-tertiary education in Austria, Norway, Portugal and the United Kingdom. Unemployment effects play an important role in the Czech Republic and Germany where better employment prospects are valued at USD 78 000 or more.

- At the tertiary level, the value of the gross earnings premium for males and females is substantial. On average, it is close to USD 300 000 for males and exceeds USD 200 000 for females across OECD countries. Males in Hungary, Italy, Portugal and the United Kingdom can expect to earn an additional USD 400 000 over their working lives compared to those with upper secondary and post-secondary non-tertiary education.

- On average across OECD countries, a female investing in tertiary education can expect a net gain of close to USD 100 000. In Korea, Portugal and the United Kingdom, the investment generates a net value over USD 150 000 and thus creates a strong incentive to complete this level of education.

- In Austria, Canada, Germany, the Netherlands and the United Kingdom, an individual invests over USD 60 000 to acquire a tertiary qualification, when direct and indirect costs are taken into account. The decision to continue education at the tertiary level thus presents a challenge. In many countries ready access to student loans appears to be important to ensure that liquidity constraints do not hinder these investments. In the Netherlands investment costs are high due to the long duration of studies (shorter ISCED 5B programmes do not exist).

- On average across countries, the net public return to an investment in tertiary education is USD 86 000 for males, when accounting for the main costs and benefits of this level of education. This is almost three times the amount of public investment in tertiary education, and as such, provides a strong incentive for governments to expand higher education.

A8

Policy context

Economic returns to education are a key driver of individuals' decisions to invest time and money in education beyond compulsory schooling. The monetary benefits of completing higher levels of education motivate individuals to postpone consumption today for future rewards. From a policy perspective, awareness of economic incentives is crucial to understand the flow of individuals through the education system.

A problem for policy makers is the fact that changes in education policies generally take some time to have an impact on the labour market. Large shifts in the demand for education can drive up earnings and returns considerably before supply catches up. This provides a strong signal both to individuals and to the education system about the need for additional investment. However, the labour market may not efficiently signal demand because of rigid labour laws and structures that tend to compress wages across different educational groups.

Nevertheless, apart from the earnings differentials, major components of the return to education are directly linked to policy: access to education, taxes and the costs of education for the individual. Very high private returns suggest that education may need to be expanded by increasing access and by making loans more readily available to individuals, rather than by lowering the costs of education. Low returns indicate that individuals do not have enough incentives to invest in education, either because education is not rewarded in the labour market, or because costs, in terms of tuition fees, foregone earnings and taxation, are relatively high.

Economic benefits of education flow not only to the individual but also to society through lower social transfers and through the additional taxes individuals pay once they enter the labour market. The public returns to education, which take into account the costs and benefits of education for governments, provide additional information on the overall returns to education. In shaping policies, it is important to consider the balance between private and public returns. This indicator takes a closer look at individual and public incentives to invest in education, as well as incentives for males and females at different educational levels.

Evidence and explanations

Financial returns to investment in education

The relationship between education and earnings can be evaluated in an investment analysis framework. The overall benefits of education can be assessed by estimating the economic value of the investment, which essentially measures the degree to which the costs of attaining higher levels of education translates into higher levels of earnings.

The indicator accounts for substantially more factors that influence returns than past research on this topic. To understand how costs and benefits are shared between the private and public side, the calculation of benefits includes taxes, social contributions and social transfers as well as differences in the probability of finding work by educational level. The cost components of the investment include public and private direct costs, foregone earnings while in school adjusted for the probability of finding work, as well as taxes, social contributions and social transfers to arrive at a net investment cost for the private and public side.

In practice, raising levels of education will give rise to a complex set of fiscal effects beyond those currently taken into account. As earnings generally increase with educational attainment, those

with higher levels of education consume more goods and services, and thus pay additional taxes on their consumption. In current calculations the public returns are underestimated. Those with higher earnings typically also pay more into their pension schemes, and, after leaving the labour force, they will have a further income advantage which is not currently taken into account in the calculations. Similarly, many governments have schemes that provide grants and loans to students at interest rates below those used in this exercise. These subsidies can often make a substantial difference in the returns to education for the individual. The developing nature of this indicator should thus be taken into account when assessing the returns to education in different countries.

In calculating the returns to education the approach taken here is the net present value (NPV) of the investment. In this framework, lifetime costs and benefits are transferred back to the start of the investment. This is done by discounting all cash flows back to the beginning of the investment with a set rate of interest (discount rate). The choice of interest rate is difficult, as it should reflect not only the overall time horizon of the investment, but also the cost of borrowing or the perceived risk of the investment. To keep things simple, and to make the interpretation of results easier, the same discount rate is applied across all OECD countries.

The discount rate used here is 3% which largely reflects the fact that the calculations are made in constant prices (see the section on definitions and methodology for a discussion of the discount rate). Discounting the costs and benefits to the present value with this interest rate makes the financial returns on the overall investment and values of the different components comparable across time and countries. The same unit of analysis also has the advantage of making it possible to add or subtract components across different educational levels or between the private and public side to understand how different factors interact.

Net present value (NPV) calculations are based on the same method as internal rate of return (IRR) calculations. The main difference between the two methods lies in how the interest rate is set. For calculations developed within the IRR framework, the interest rate is raised to the level at which the economic benefits equal the cost of the investment and it pinpoints the discount rate at which the investment breaks even.

In the NPV approach, the discount rate is fixed at the beginning of the analysis and the economic benefits and costs are then valued in line with the chosen interest rate. The net present value has some advantages over IRR in that it is better suited to long-term investments. IRR typically favours short-term investments with large cash flows that are close in time with the investment. The net present value is thus better suited for educational investments which typically span several decades. A further advantage of the NPV method is its flexibility and the possibility to analyse the different components that make up the overall returns.

It is important to note that the NPV ranks investments differently from the IRR because of differences in the magnitude of cash flows and how these are distributed over the lifetime of the investment. Internal rates of return are given in the tables to provide some guidance on the interest rate at which the investment breaks even in different countries. However, the analysis focuses on how the value of education differs between countries. The economic benefits of tertiary education are compared to upper secondary education and for upper secondary education, below upper secondary education are used as a point of reference. In the calculations, females are benchmarked against females and males against males.

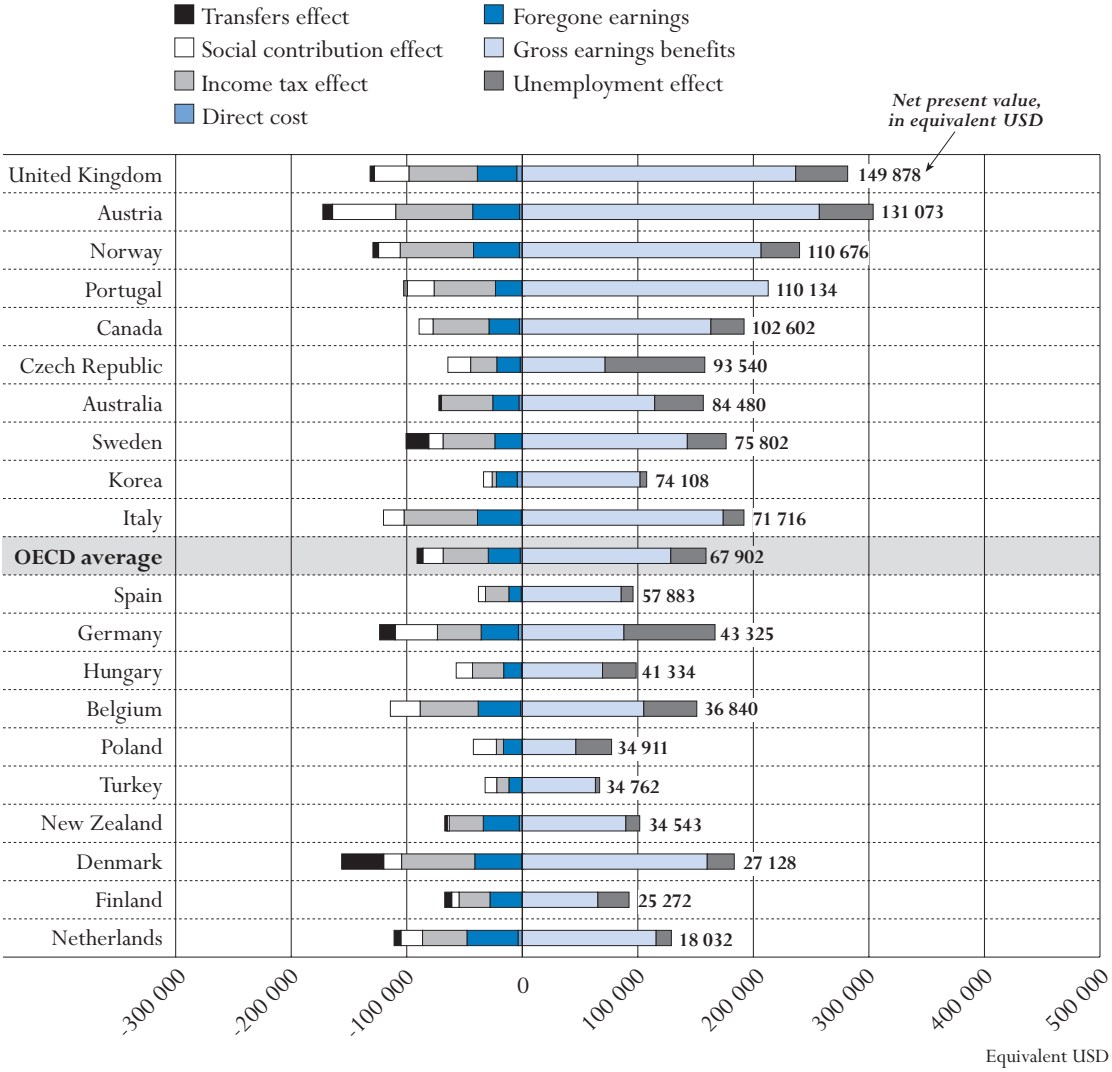
A8

Incentives for the individual to invest in education

Upper secondary education or post-secondary non-tertiary education

The different costs and benefits make up the components of the value of education, and as such, describe the key drivers of the returns to education in different countries. In order to visualise the main factors influencing the returns, each cost and benefit is discounted back in time at a discount rate of 3%. Table A8.1 shows the value of each component and the net present value of the overall investment for a female and male attaining upper secondary education or postsecondary non-tertiary education.

Chart A8.2. Components of the private net present value for a male obtaining an upper secondary or post-secondary non-tertiary education, ISCED 3/4 (2006)



Note: Korea refers to 2003, 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 net present value.
Source: OECD. Table A8.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

Chart A8.2 shows these components for a male investing in an upper secondary education or post-secondary non-tertiary education. At this level of education the direct costs of education are typically negligible and the main investment cost is foregone earnings. Depending on the length of education, salary levels and the possibility of finding a job, foregone earnings vary substantially among countries. In Spain and Turkey foregone earnings are less than USD 13 000, while in Austria, Denmark and the Netherlands they exceed USD 40 000. Good labour market prospects for young individuals without an upper secondary education thus increase the opportunity costs of further investment in education. Note that recent policies to extent compulsory schooling to upper secondary education in the Netherlands make a comparison to other OECD countries less viable. Because compulsory education reaches until the age of 18, few 15-18 year-olds will be out of education and working.

Gross earnings and unemployment effects over an individual's working life make up the benefit side. In Austria, Norway, Portugal and the United Kingdom the discounted gross earnings effect exceeds USD 200 000 over the working life of a male with upper secondary education or post-secondary non-tertiary education. Unemployment effects play an important role in the Czech Republic and Germany where the better employment prospects are valued at USD 78 000 or more.

Income taxes, social contributions, and transfer effects bring down the benefit side, and on average across countries, a male investing in upper secondary education or post-secondary non-tertiary education can expect a gain of approximately USD 68 000 over his working life. However, the amount varies significantly among countries; in Austria and the United Kingdom this level of education generates over USD 130 000 but in Belgium, Denmark, Finland, the Netherlands, New Zealand, Poland and Turkey the net benefits are less than USD 40 000 (Table A8.1).

Males generally have better financial returns to their upper secondary education or post-secondary non-tertiary education than females, except in Belgium, Hungary, Italy, the Netherlands, Poland and Spain. The impact of the different components of the investment is typically stronger, except for transfer effects, as some countries' social safety nets may work against females investing in further education. Low female wages at below upper secondary education interact with social benefit schemes in some countries and take away some of the income advantage of completing an upper secondary education.

Tertiary education

The rewards for investing in tertiary education are typically higher for males except in Australia, Korea, Spain and Turkey where the returns are higher for females (Table A8.2). On average across OECD countries, a female investing in tertiary education can expect a net gain of close to USD 100 000 and a male of almost USD 150 000.

The present value of the gross earnings premium for males and females is substantial, on average USD 300 000 for males and USD 200 000 for females across OECD countries. Males in Hungary, Italy, Portugal and the United Kingdom can expect to earn an additional USD 400 000 over their working life compared to an individual with upper secondary and post-secondary non-tertiary education.

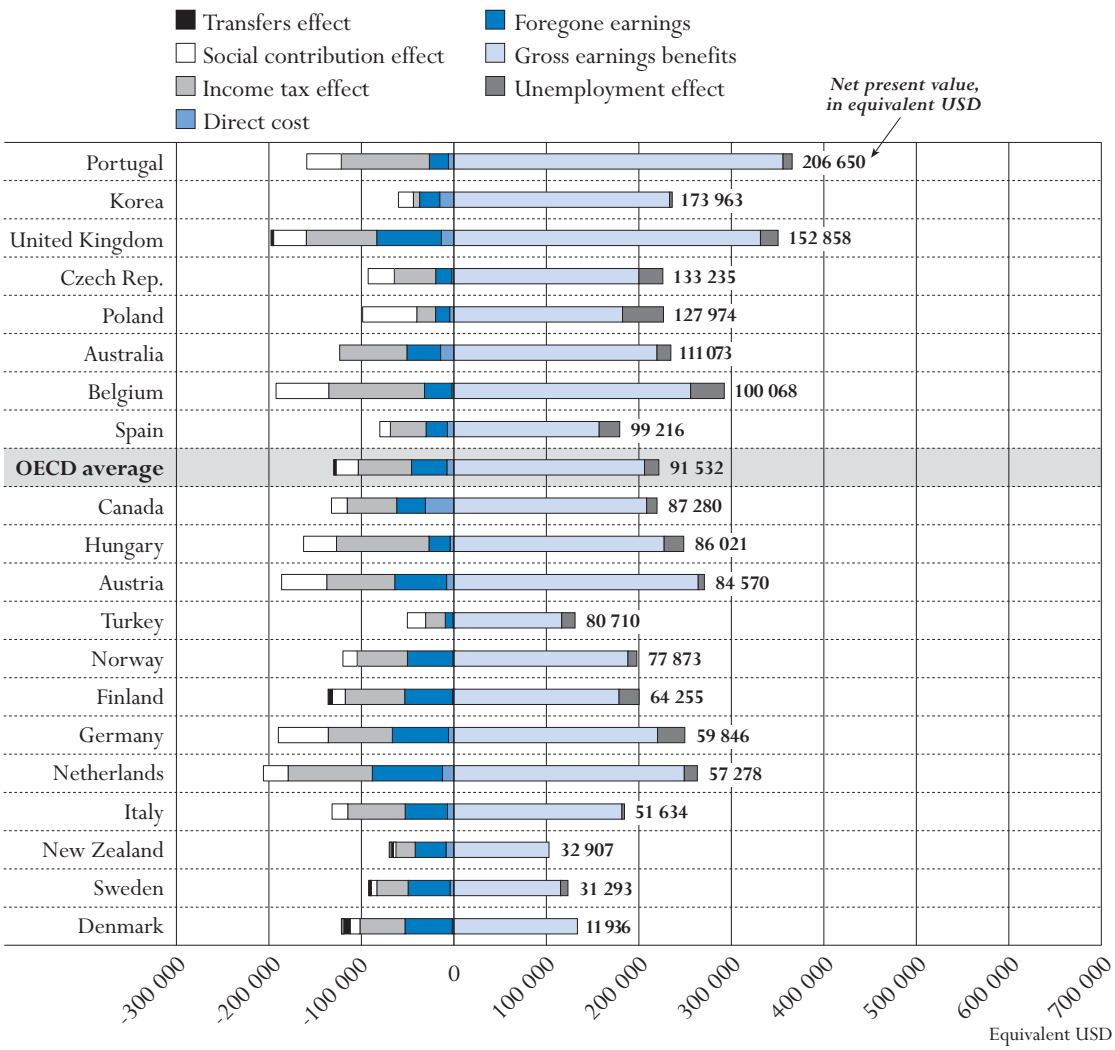
Chart A8.3 shows the components of the returns to tertiary education for females in different countries. Relative to upper secondary and post-secondary non-tertiary education, the impact of unemployment benefits is less pronounced than the earnings differential, and taxes and the direct costs of education play a substantially larger role.

A8

As for upper secondary and post-secondary non-tertiary education, the returns to tertiary education are largely driven by the earnings premium; other components are less important in explaining differences among OECD countries. This suggests that it is important for policy makers to understand the supply of and demand for education. The components illustrated in Chart A8.3 show, however, the importance of specific factors in different countries and thus indicate areas in which policy can help to improve incentives.

Tertiary education brings for females substantial rewards in Korea, Portugal and the United Kingdom, where an investment generates over USD 150 000 and thus gives a strong incentive to complete this level of education. In some countries females need to continue their education to tertiary level to fully reap the economic benefits of education beyond compulsory schooling.

Chart A8.3. Components of the private net present value for a female obtaining tertiary education, ISCED 5/6 (2006)



Note: Korea refers to 2003, 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 net present value.
Source: OECD. Table A8.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

In Korea and Portugal tertiary education generates for females more than USD 100 000 in additional rewards compared with upper secondary education.

The returns to tertiary education are below USD 40 000 in Denmark, New Zealand and Sweden. However, many countries have favourable and substantial student loans and grants which lower investment costs and make incentives to invest more attractive. Loans and grants are a particularly important tool for recruiting students from less affluent backgrounds.

Box A8.1. Estimating returns to education

There are essentially two main approaches to estimating the financial returns to education, founded either on investment theory, from the finance literature, or on an econometric specification, from the labour economics literature.

The basis for an investment approach is the discount rate (the time-value of money), which makes it possible to compare costs or payments (cash flows) over time. The discount rate can be estimated either by raising it to the level at which financial benefits equal costs, which is then the internal rate of return, or by setting the discount rate at a required rate that takes into consideration the risk involved in the investment, which is then a net present value calculation with the gains expressed in monetary units.

The econometric approach taken in labour economics originates from Mincer (1974) in which returns to education are estimated in a regression relating earnings to years of education, labour market experience and tenure. This basic model has been extended in subsequent work to include educational levels, employment effects and additional control variables such as gender and work characteristics. The drawback of a regression approach is typically the scarcity of information beyond gross earnings which makes it difficult to assess the actual incentives to invest in education that individuals face.

Apart from availability of data, the main difference between the two approaches is that the investment approach is forward-looking (although historical data are typically used) whereas an econometric approach tries to establish the actual contribution of education to gross earnings by controlling for other factors that can influence earnings and returns. This distinction has implications for the assumptions and for the interpretation of returns to education. As the investment approach focuses on the incentives at the time of the investment decision, it is prudent not to remove the effect of (controlling for) other factors as these are part of the returns that an individual can expect to receive when deciding to invest in education.

Depending on the impact of the control variables, how steep the earnings curves are, and how cash flows are distributed over time, the results of the two approaches can diverge quite substantially. Depending on other underlying assumptions, returns may differ between and within a class of models as well. For instance, cash flows can be calculated differently and, depending on the method chosen, returns will vary to some degree. As noted in the introduction the results between net present value and internal rates of return can also diverge quite substantially depending on the size of cash flows and how these are distributed over the life span. It is therefore generally not advisable to compare rates of return from different approaches or studies.

In Denmark, grants amount to USD 7 500 per year for a student not living with his/her parents. Accounting for these grants would reduce the investment cost by more than half and add approximately USD 28 000 to the overall value of a tertiary education. There is, of course, a danger in focusing only on the supply side of the investment. As younger generations become more mobile, a reward structure for more highly educated individuals that is too low will eventually drain some of the high-skilled resources to countries with higher earnings potentials.

There are some trade-offs between taxes and the direct costs of education (tuition fees) which are linked to government support for higher education. In countries with low or no tuition fees individuals typically pay back public subsidies later in life through progressive tax schemes. In countries in which a larger portion of the investment falls on the individual (in the form of tuition fees) earnings differentials are larger and a larger portion of the earnings differential also accrues to the individual. In general there is a positive link, albeit a weak one, between the private direct costs of education and the overall value of the education (net present value of the investment).

Public rate of return to investments in education

Public returns are one way of examining the effect on public-sector accounts of individuals' decisions to invest in education and the effect of policies that affect these investments. Similarly, to warrant intervention by governments to improve private rates of return to education, it is important to consider public returns in order to have a complete picture of overall returns.

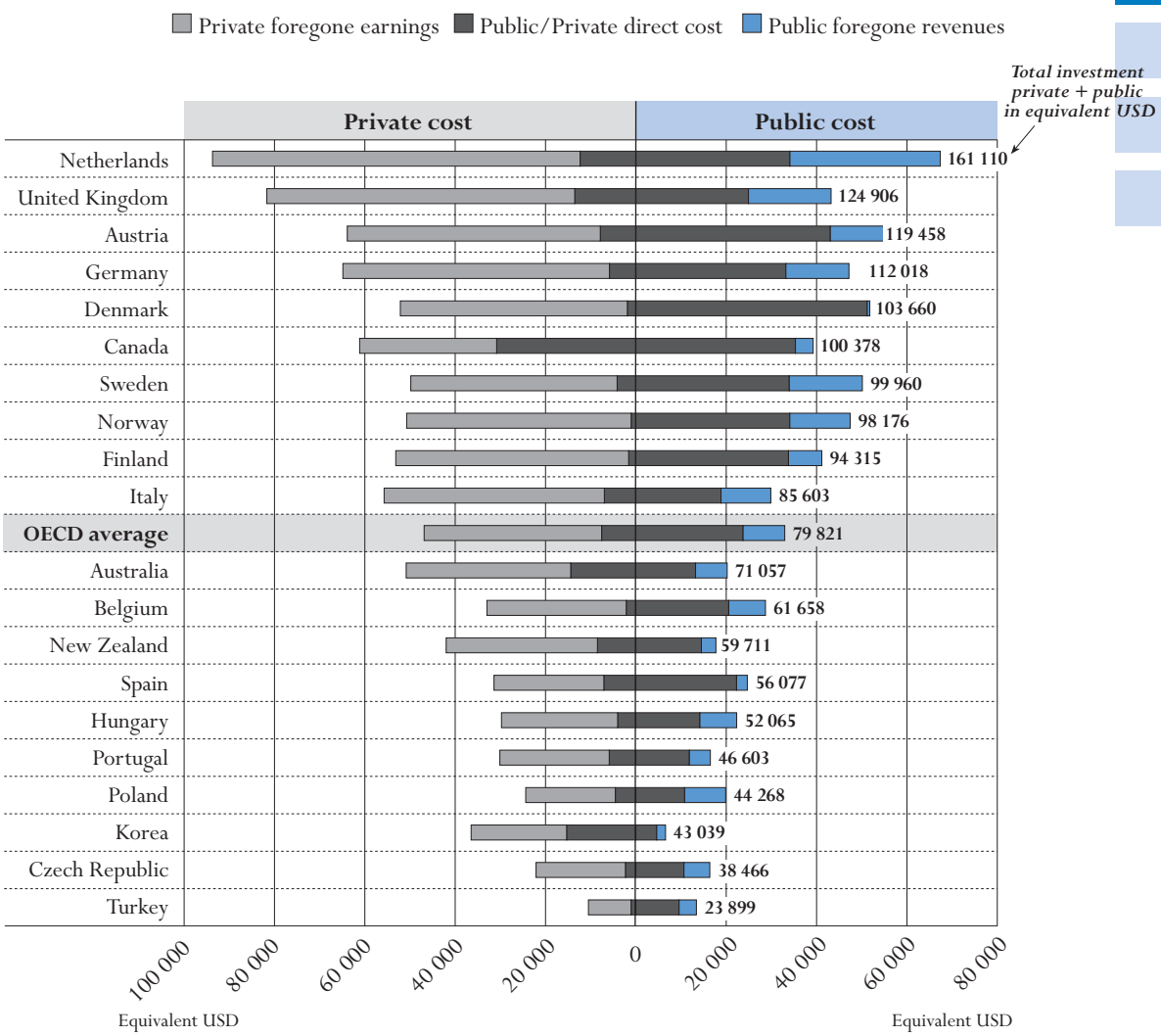
Tables A8.3 and A8.4 show the public returns for individuals who obtain upper secondary or post-secondary non-tertiary education and tertiary education as part of initial education. Chart A8.4 shows the public and private costs for males investing in tertiary education. On average across OECD countries, the value invested in a male obtaining a tertiary education is almost USD 80 000, taking into account public and private spending, as well as indirect costs in the form of public and private foregone earnings and taxes. In Austria, Canada, Denmark, Germany, the Netherlands and the United Kingdom the present value of the investment costs exceeds USD 100 000 (Chart A8.4).

Direct costs for education are generally borne by the public side except in Canada and Korea, where tuition fees constitute a significant share of overall private investment costs for tertiary education. Together with foregone public earnings in the form of taxes and social contributions, direct and indirect public investment costs exceed USD 50 000 in Austria, Denmark, the Netherlands and Sweden for a male with tertiary education. In Korea and Turkey the total public investment cost does not exceed USD 15 000. On average among OECD countries, the total present value of public investment for a male obtaining a tertiary qualification is USD 33 000.

Although public investments in tertiary education are large in many countries, private investment costs exceed them in most countries. In Austria, Canada, Germany, the Netherlands and the United Kingdom an individual invests over USD 60 000 to acquire a tertiary qualification when direct and indirect costs are taken into account. In Canada direct costs, such as tuition fees, represent more than 50% of the investment.

The decision to continue education at a tertiary level is thus a challenge, as much is at stake, particularly for young individuals from less affluent backgrounds. With the substantial private and public gains from tertiary investments, it is very important to provide ready access to student loans to ensure that liquidity constraints do not hinder such investment.

Chart A8.4. Public *versus* private investment for a male obtaining tertiary education (2006)



Note: Korea refers to 2003, 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 total cost private + public.
Source: OECD. Tables A8.2 and A8.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

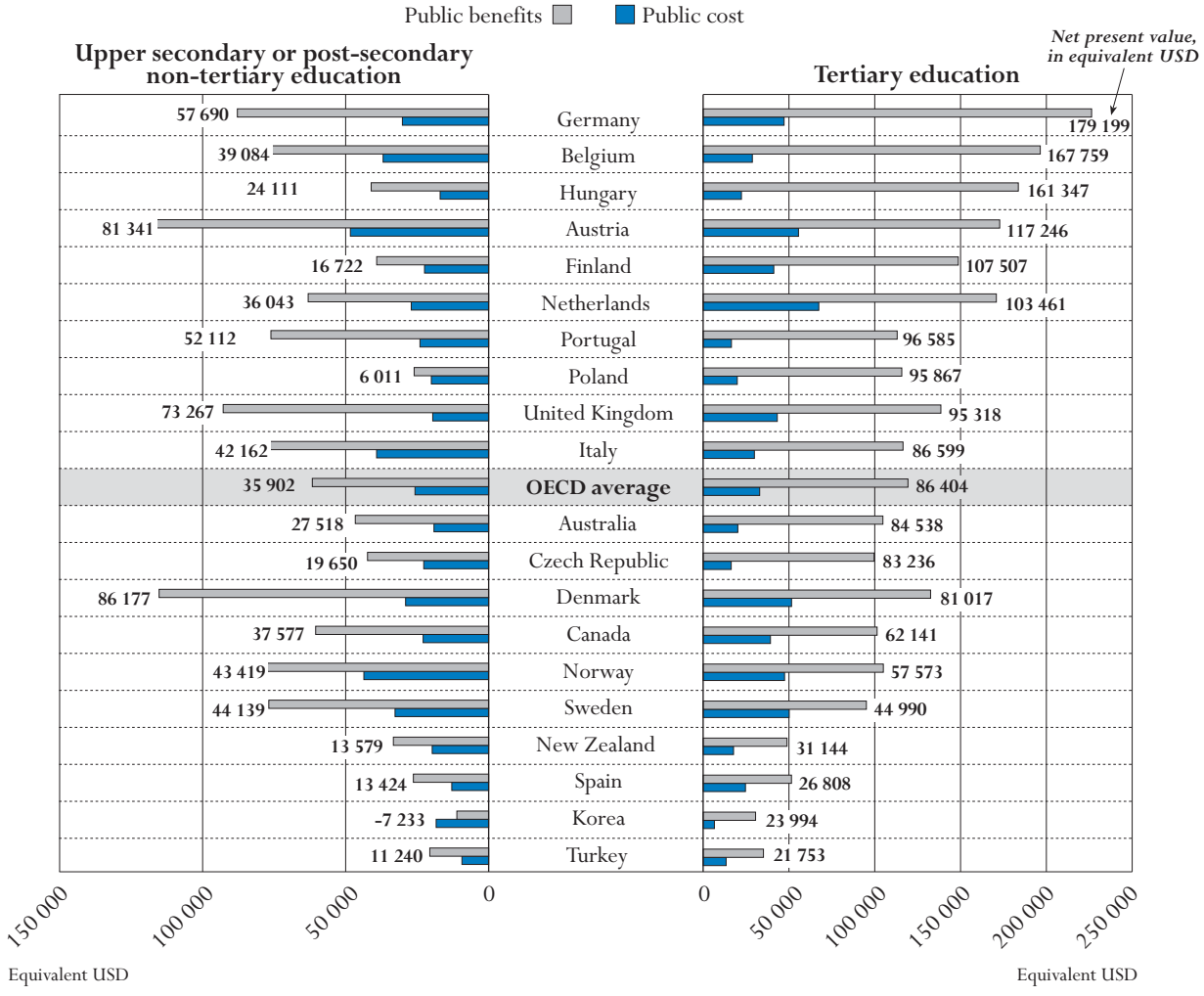
For an individual, foregone earnings make up a substantial part of overall investment costs. In countries with lengthy tertiary education such as Austria, Germany and particularly in the Netherlands where shorter ISCED 5B programmes do not exist, foregone earnings are large (see Indicator B1). In these countries the relative high private investments are thus matched by an approximately equal longer stay in tertiary education. Earnings foregone also depend on expected wage levels and the probability of finding a job. As the labour market for young adults is worsening (see Indicator C3), investment costs will fall and thereby increase the returns to tertiary education. Incentives to invest in education from both the private and the public perspective will thus be greater in most OECD countries.

A8

Investments in education also generate public returns as a consequence of higher income levels, in the form of income taxes, increased social insurance payments and lower social transfers. Chart A8.5 compares the costs and economic benefits from the public point of view for a male investing in upper secondary or post-secondary non-tertiary education and in tertiary education.

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 post-secondary 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. The public returns for a female investing in upper secondary or post-secondary non-tertiary education are marginally lower, at USD 7 000 less than for a male on average across OECD countries (Table A8.3).

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.
Source: OECD. Tables A8.3 and A8.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

The 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 (Chart A8.5).

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.

In conclusion, there seems to be room for additional expansion of higher education either by public or private financing. As this indicator shows, at a real discount rate of 3%, investments in education yield substantial private and public returns in most countries. Public investments in education, particularly at the tertiary level, are rational even in the face of running a deficit in public finances. Issuing government bonds to finance these investments will yield significant returns and improve public finances in the longer term. Public as well as private returns to tertiary education will eventually drop in countries with high returns as supply meets demand, but from the viewpoint of equity this may be a desirable outcome.

Definitions and methodologies

As noted in the introduction the choice of discount rate is a difficult issue. To acknowledge that the calculations are made in constant prices and the fact that, at least on the public side, these investments are essentially risk-free.

To arrive at a reasonable discount rate, long-term government bonds have been used as a benchmark. The average long-term interest rate across OECD countries was approximately 4.5% in 2006. Assuming that central banks in countries have succeeded in anchoring inflation expectations at or below 2% per year, a long-term nominal interest rate of 4.5% implies a real interest rate of 2.5% to 3%. The 3% real discount rate used in this indicator thus corresponds to the nominal interest of approximately 5% used in *Education at a Glance 2009*. The change in the discount rate has a substantial impact on the net present value of education which needs to be taken into account if the results for these two editions are compared.

In the calculation of the private net present value (NPV), private investment costs include after-tax foregone earnings adjusted for the probability of finding a job (unemployment rate) and direct private expenditures on education. Both of these investment streams take into account the duration of studies. On the benefit side, age-earnings profiles are used to calculate the earnings differential between different educational groups (below upper secondary education; upper secondary or post-secondary non-tertiary education; and tertiary education).

These gross earnings differentials are adjusted for differences in income taxes and social contributions as well as social transfers (including housing benefits and social assistance related to earnings level) to arrive at net earnings differentials. The cash flows are further adjusted for probability of finding a job (unemployment rates). The calculations are done separately for males and females to account for differences in earnings differentials and unemployment rates.

In the calculation of public NPV, public costs include lost tax receipts during the years of schooling (income tax and social contributions) and public expenditures (taking into account the duration of studies). Lost tax receipts are low in some countries because young individuals have low earnings levels. Public expenditures on education include direct expenditures (such as payment of teachers' salaries or spending for the construction of school buildings, purchase of textbooks, etc.) and public-private transfers (such as public subsidies to households for scholarships and other grants and to other private entities for provision of training at the workplace, etc.).

The benefits for the public sector are additional tax and social contribution receipts associated with higher earnings and savings on transfers, *i.e.* housing benefits and social assistance that the public sector does not have to pay because of higher levels of earnings.

It is important to consider some of the broad conceptual limitations on the estimates of financial returns performed here:

- The data reported are accounting-based values only. The results no doubt differ from econometric estimates that would use the same data on the micro level rather than a lifetime stream of earnings derived from average earnings.
- The approach used here estimates future earnings for individuals with different levels of educational attainment, based on knowledge of how average present gross earnings vary by level of attainment and age. However, the relationship between different levels of educational attainment and earnings may differ in the future from what it is today. Technological, economic and social changes may all alter how wage levels relate to levels of educational attainment.
- Differences in returns across countries partly reflect different institutional and non-market conditions that bear on earnings, such as institutional conditions that limit flexibility in relative earnings.
- In estimating benefits, the effect of education on increasing the likelihood of employment when wanting to work is taken into account. However, this also makes the estimate sensitive to the stage in the economic cycle at which the data are collected. As more highly educated individuals typically have a stronger attachment to the labour market, the value of education generally increases in times of poor economic growth.

The calculations also involve a number of restrictive assumptions needed for international comparability. For calculations of the investments in education, foregone earnings have been standardised at the level of the legal minimum wage or the equivalent in countries in which the earnings data include part-time work (when no national minimum wage was available, the wage was selected from wages set in collective agreements). This assumption seeks to counterbalance the very low recorded earnings for 15-24 year-olds that led to excessively high estimates in earlier editions of *Education at a Glance*. In the Czech Republic, Hungary, the Netherlands, Poland, Portugal and the United Kingdom actual earnings are used in the calculations of foregone earnings as part-time work is excluded in these earnings data collections.

For the methods employed for the calculation of the rates of return, please see Annex 3 at *www.oecd.org/edu/eag2010*.

Further references

Mincer, J. (1974), "Schooling, Experience, and Earnings", National Bureau of Economic Research (NBER), New York.

A8

Table A8.1.

Private net present value for an individual obtaining upper secondary or post-secondary non-tertiary education as part of initial education, ISCED 3/4 (2006)

In equivalent USD, converted using PPPs for GDP

OECD countries	Year[1]	Direct cost		Foregone earnings		Total costs		Gross earnings benefits		Income tax effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	-1	-2 891	-2 891	-22 661	-23 380	**-25 553**	**-26 271**	114 598	94 207	-45 267	-29 950
Austria		-2 360	-2 360	-40 556	-39 016	**-42 916**	**-41 376**	257 094	178 802	-66 653	-26 662
Belgium	-1	-1 511	-1 511	-36 691	-31 509	**-38 202**	**-33 020**	105 141	148 948	-50 243	-52 366
Canada		-2 478	-2 478	-26 369	-27 034	**-28 847**	**-29 513**	163 243	143 258	-48 388	-31 623
Czech Republic		-1 787	-1 787	-20 260	-16 230	**-22 048**	**-18 018**	71 667	78 630	-22 673	-19 376
Denmark		-614	-614	-40 502	-40 540	**-41 116**	**-41 154**	160 072	122 514	-63 354	-34 926
Finland		-186	-186	-27 797	-27 110	**-27 983**	**-27 296**	65 403	41 334	-26 788	-15 507
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-3 380	-3 380	-32 250	-32 528	**-35 629**	**-35 908**	87 966	86 107	-37 839	-28 130
Hungary		-747	-747	-15 371	-15 592	**-16 118**	**-16 339**	69 431	67 379	-26 973	-23 838
Italy		-884	-884	-37 895	-33 025	**-38 780**	**-33 909**	173 901	137 400	-63 557	-44 841
Korea	-3	-4 358	-4 358	-18 057	-18 182	**-22 416**	**-22 540**	101 951	4 509	-3 697	520
Netherlands		-3 666	-3 666	-44 221	-42 220	**-47 887**	**-45 886**	115 846	121 122	-38 453	-17 599
New Zealand		-2 598	-2 598	-31 184	-29 980	**-33 782**	**-32 578**	89 623	60 909	-30 434	-14 768
Norway		-2 558	-2 558	-39 671	-39 689	**-42 229**	**-42 246**	206 700	128 213	-63 479	-34 640
Poland		-177	-177	-16 120	-13 249	**-16 297**	**-13 425**	46 353	62 432	-6 124	-7 066
Portugal		-12	-12	-23 219	-20 192	**-23 230**	**-20 203**	212 846	150 215	-53 100	-30 589
Spain	-2	-966	-966	-10 675	-9 157	**-11 642**	**-10 123**	85 624	75 375	-20 229	-15 627
Sweden		-21	-21	-23 725	-23 781	**-23 746**	**-23 802**	142 848	105 423	-44 888	-33 014
Turkey	-1	-336	-336	-11 256	-12 205	**-11 592**	**-12 541**	63 320	75 879	-10 527	-8 168
United Kingdom		-4 773	-4 773	-34 122	-35 464	**-38 894**	**-40 237**	236 620	211 147	-59 240	-50 897
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-1 815*	*-1 815*	*-27 630*	*-26 504*	*-29 445*	*-28 319*	*128 512*	*104 690*	*-39 095*	*-25 953*

OECD countries	Year[1]	Social contribution effect		Transfers effect		Unemployment effect		Total net benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Australia	-1	0	0	-1 364	-17 689	42 065	23 289	**110 032**	**69 857**	**84 480**	**43 586**	**14.4**	**11.9**
Austria		-54 652	-37 211	-8 397	-19 751	46 596	23 156	**173 988**	**118 335**	**131 073**	**76 959**	**12.6**	**9.2**
Belgium	-1	-25 741	-41 993	0	0	45 885	46 051	**75 042**	**100 641**	**36 840**	**67 621**	**6.6**	**10.8**
Canada		-12 100	-14 727	0	-1 672	28 695	24 625	**131 449**	**119 861**	**102 602**	**90 348**	**13.1**	**12.7**
Czech Republic		-19 679	-18 390	0	0	86 273	68 363	**115 588**	**109 226**	**93 540**	**91 209**	**17.6**	**20.2**
Denmark		-15 480	-11 851	-36 387	-45 893	23 393	15 785	**68 243**	**45 629**	**27 128**	**4 475**	**5.8**	**3.4**
Finland		-6 326	-5 074	-6 032	-14 195	26 998	32 448	**53 255**	**39 007**	**25 272**	**11 711**	**7.4**	**5.4**
France		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		-36 486	-29 288	-13 532	-12 609	78 846	48 169	**78 955**	**64 249**	**43 325**	**28 342**	**7.8**	**6.5**
Hungary		-14 101	-13 654	0	0	29 095	28 113	**57 452**	**58 000**	**41 334**	**41 661**	**13.4**	**11.9**
Italy		-17 786	-15 224	0	0	17 938	28 616	**110 496**	**105 951**	**71 716**	**72 042**	**7.2**	**8.5**
Korea	-3	-7 426	-499	0	-3 912	5 696	2 653	**96 524**	**3 271**	**74 108**	**-19 269**	**11.1**	**0.9**
Netherlands		-18 703	-46 965	-5 949	-12 382	13 179	24 165	**65 919**	**68 340**	**18 032**	**22 454**	**4.4**	**4.8**
New Zealand		-1 224	-858	-1 655	-12 984	12 015	10 325	**68 325**	**42 624**	**34 543**	**10 046**	**6.6**	**4.8**
Norway		-18 695	-11 294	-4 876	-14 435	33 255	16 917	**152 905**	**84 762**	**110 676**	**42 515**	**12.8**	**7.1**
Poland		-19 927	-22 813	0	0	30 906	26 653	**51 208**	**59 205**	**34 911**	**45 780**	**10.6**	**11.9**
Portugal		-23 029	-17 666	0	0	-3 353	10 416	**133 364**	**112 376**	**110 134**	**92 173**	**11.6**	**12.0**
Spain	-2	-6 095	-5 860	0	0	10 225	17 378	**69 525**	**71 265**	**57 883**	**61 142**	**11.7**	**14.6**
Sweden		-12 329	-9 636	-19 654	-24 984	33 571	33 456	**99 548**	**71 244**	**75 802**	**47 442**	**14.3**	**10.2**
Turkey	-1	-10 055	-9 177	0	0	3 617	-14 154	**46 354**	**44 381**	**34 762**	**31 839**	**9.4**	**8.9**
United Kingdom		-29 889	-25 686	-3 697	-46 808	44 978	31 680	**188 773**	**119 436**	**149 878**	**79 200**	**13.4**	**10.5**
United States		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*-17 486*	*-16 893*	*-5 077*	*-11 366*	*30 494*	*24 905*	*97 347*	*75 383*	*67 902*	*47 064*	*10.6*	*9.3*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

A8

Table A8.2.

Private net present value for an individual obtaining tertiary education as part of initial education, ISCED 5/6 (2006)

In equivalent USD, converted using PPPs for GDP

		Direct cost		Foregone earnings		Total costs		Gross earnings benefits		Income tax effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries											
Australia	-1	-14 426	-14 426	-36 420	-36 370	**-50 846**	**-50 796**	255 043	219 590	-104 749	-72 697
Austria		-7 879	-7 879	-56 009	-56 053	**-63 888**	**-63 932**	380 956	264 161	-125 695	-73 537
Belgium	-1	-2 133	-2 133	-30 842	-29 666	**-32 975**	**-31 799**	330 068	255 955	-146 283	-103 529
Canada		-30 820	-30 820	-30 327	-31 009	**-61 147**	**-61 829**	295 609	208 439	-94 636	-53 516
Czech Republic		-2 317	-2 317	-19 785	-17 356	**-22 102**	**-19 673**	349 444	200 077	-65 309	-44 720
Denmark		-1 887	-1 887	-50 254	-50 987	**-52 141**	**-52 874**	212 423	133 560	-111 634	-48 690
Finland		-1 603	-1 603	-51 547	-51 568	**-53 150**	**-53 171**	304 543	178 561	-125 734	-64 291
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-5 852	-5 852	-59 004	-60 677	**-64 856**	**-66 529**	366 445	220 156	-150 124	-69 334
Hungary		-4 034	-4 034	-25 719	-22 910	**-29 753**	**-26 943**	410 323	227 320	-134 380	-99 975
Italy		-6 977	-6 977	-48 756	-45 725	**-55 733**	**-52 701**	485 212	181 641	-92 371	-62 065
Korea	-3	-15 329	-15 329	-21 144	-21 731	**-36 472**	**-37 060**	176 206	233 259	-18 025	-6 734
Netherlands		-12 351	-12 351	-81 366	-75 816	**-93 717**	**-88 167**	360 262	249 090	-157 021	-91 090
New Zealand		-8 509	-8 509	-33 486	-33 351	**-41 994**	**-41 860**	143 270	102 836	-46 971	-22 364
Norway		-1 043	-1 043	-49 699	-49 192	**-50 742**	**-50 235**	235 888	188 187	-86 646	-54 292
Poland		-4 547	-4 547	-19 838	-15 268	**-24 385**	**-19 816**	308 019	182 336	-35 830	-20 299
Portugal		-5 903	-5 903	-24 213	-20 594	**-30 116**	**-26 497**	484 638	355 877	-82 694	-95 240
Spain	-2	-7 086	-7 086	-24 323	-22 996	**-31 409**	**-30 082**	157 114	157 091	-41 161	-38 585
Sweden		-4 149	-4 149	-45 679	-45 346	**-49 829**	**-49 495**	193 165	115 319	-88 264	-33 816
Turkey	-1	-1 061	-1 061	-9 441	-8 217	**-10 502**	**-9 278**	106 984	116 531	-18 705	-21 327
United Kingdom		-13 536	-13 536	-68 162	-69 881	**-81 698**	**-83 418**	410 275	331 462	-114 054	-76 150
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-7 572*	*-7 572*	*-39 301*	*-38 236*	*-46 873*	*-45 808*	*298 294*	*206 072*	*-92 014*	*-57 613*

		Social contribution effect		Transfers effect		Unemployment effect		Total net benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
OECD countries													
Australia	-1	0	0	0	0	1 067	14 976	**151 361**	**161 869**	**100 515**	**111 073**	**9.1**	**11.3**
Austria		-47 120	-48 803	0	0	13 821	6 681	**221 962**	**148 502**	**158 074**	**84 570**	**9.1**	**7.4**
Belgium	-1	-50 159	-56 931	0	0	14 294	36 372	**147 919**	**131 867**	**114 944**	**100 068**	**11.7**	**14.1**
Canada		-6 736	-16 998	0	0	16 283	11 184	**210 520**	**149 109**	**149 373**	**87 280**	**9.6**	**8.8**
Czech Republic		-34 291	-28 291	0	0	16 375	25 841	**266 219**	**152 908**	**244 117**	**133 235**	**22.5**	**19.6**
Denmark		-16 201	-10 647	-4 702	-9 014	-6 880	-399	**73 008**	**64 810**	**20 867**	**11 936**	**4.4**	**4.0**
Finland		-22 938	-13 804	0	-4 733	27 492	21 693	**183 363**	**117 426**	**130 213**	**64 255**	**10.0**	**7.5**
France		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		-76 237	-53 954	0	0	61 335	29 508	**201 418**	**126 375**	**136 563**	**59 846**	**9.0**	**6.5**
Hungary		-49 280	-35 578	0	0	20 934	21 197	**247 598**	**112 964**	**217 845**	**86 021**	**17.7**	**12.8**
Italy		-24 098	-16 963	0	0	-4 712	1 722	**364 031**	**104 335**	**308 299**	**51 634**	**11.5**	**6.6**
Korea	-3	-12 536	-16 175	0	0	4 778	672	**150 423**	**211 022**	**113 951**	**173 963**	**9.4**	**12.9**
Netherlands		-13 833	-26 675	0	0	8 808	14 120	**198 216**	**145 445**	**104 499**	**57 278**	**6.6**	**5.6**
New Zealand		-1 696	-1 217	-194	-3 416	-1 872	-1 073	**92 538**	**74 767**	**50 544**	**32 907**	**7.2**	**6.5**
Norway		-18 361	-15 448	0	0	-559	9 661	**130 322**	**128 108**	**79 580**	**77 873**	**6.6**	**8.3**
Poland		-79 920	-58 532	0	0	45 499	44 285	**237 767**	**147 790**	**213 382**	**127 974**	**20.4**	**19.2**
Portugal		-30 377	-37 339	0	0	25 278	9 848	**396 844**	**233 148**	**366 728**	**206 650**	**18.4**	**18.4**
Spain	-2	-10 315	-11 404	0	0	9 156	22 195	**114 794**	**129 298**	**83 385**	**99 216**	**9.3**	**11.6**
Sweden		-6 857	-8 645	0	-64	4 196	7 995	**102 239**	**80 788**	**52 411**	**31 293**	**6.1**	**5.3**
Turkey	-1	-16 446	-19 686	0	0	2 906	14 471	**74 740**	**89 988**	**64 238**	**80 710**	**19.1**	**19.1**
United Kingdom		-24 472	-37 753	0	-339	17 604	19 056	**289 353**	**236 276**	**207 655**	**152 858**	**11.2**	**8.5**
United States		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*-27 094*	*-25 742*	*-245*	*-878*	*13 790*	*15 500*	*192 732*	*137 340*	*145 859*	*91 532*	*11.5*	*10.7*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

A8

Table A8.3.

Public net present value for an individual obtaining upper secondary or post-secondary non-tertiary education as part of initial education (2006)

In equivalent USD, converted using PPPs for GDP

		Direct cost		Foregone taxes on earnings		Total costs		Income tax effect		Social contribution effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries											
Australia	-1	-14 757	-14 757	-4 357	-4 495	**-19 114**	**-19 252**	36 052	25 858	0	0
Austria		-39 292	-39 292	-9 068	-8 724	**-48 361**	**-48 016**	60 880	26 199	46 290	33 072
Belgium	-1	-27 225	-27 225	-9 674	-8 308	**-36 900**	**-35 533**	39 931	44 765	19 578	38 458
Canada		-19 511	-19 511	-3 400	-3 486	**-22 911**	**-22 997**	44 500	29 612	10 174	13 092
Czech Republic		-17 604	-17 604	-5 099	-3 856	**-22 703**	**-21 459**	13 281	13 158	8 953	9 893
Denmark		-28 804	-28 804	-241	-242	**-29 045**	**-29 045**	56 577	30 726	12 787	9 833
Finland		-18 440	-18 440	-3 983	-3 885	**-22 423**	**-22 325**	21 167	10 058	4 487	2 877
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-22 539	-22 539	-7 629	-7 694	**-30 167**	**-30 233**	24 978	23 568	19 538	18 979
Hungary		-13 352	-13 352	-3 611	-3 964	**-16 963**	**-17 316**	23 052	20 758	9 955	9 651
Italy		-30 614	-30 614	-8 568	-7 466	**-39 181**	**-38 080**	59 924	40 842	16 143	12 613
Korea	-3	-16 693	-16 693	-1 663	-1 674	**-18 356**	**-18 368**	3 653	-520	7 036	318
Netherlands		-24 389	-24 389	-2 674	-1 689	**-27 063**	**-26 078**	37 712	16 547	15 315	40 732
New Zealand		-16 743	-16 743	-2 992	-2 876	**-19 735**	**-19 619**	27 907	12 854	1 081	735
Norway		-32 967	-32 967	-10 663	-10 668	**-43 631**	**-43 635**	56 995	32 170	16 117	9 989
Poland		-12 824	-12 824	-7 215	-5 684	**-20 039**	**-18 508**	4 246	5 661	11 991	15 984
Portugal		-19 937	-19 937	-4 081	-3 283	**-24 018**	**-23 220**	53 611	29 640	23 397	16 527
Spain	-2	-11 856	-11 856	-1 044	-896	**-12 900**	**-12 751**	19 104	14 978	5 450	4 768
Sweden		-24 332	-24 332	-8 400	-8 419	**-32 732**	**-32 752**	37 846	26 593	9 999	7 323
Turkey	-1	-4 776	-4 776	-4 566	-4 951	**-9 343**	**-9 728**	9 997	10 025	9 514	11 264
United Kingdom		-15 838	-15 838	-3 721	1 841	**-19 559**	**-13 997**	52 284	46 523	26 142	23 261
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-20 625*	*-20 625*	*-5 132*	*-4 521*	*-25 757*	*-25 146*	*34 185*	*23 001*	*13 697*	*13 968*

		Transfers effect		Unemployment effect		Total benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
OECD countries											
Australia	-1	1 364	17 689	9 215	4 092	**46 632**	**47 639**	**27 518**	**28 387**	**8.6**	**17.2**
Austria		8 397	19 751	14 135	4 602	**129 702**	**83 623**	**81 341**	**35 607**	**8.7**	**6.3**
Belgium	-1	0	0	16 474	11 136	**75 983**	**94 358**	**39 084**	**58 825**	**6.7**	**8.0**
Canada		0	1 672	5 814	3 646	**60 488**	**48 023**	**37 577**	**25 026**	**7.8**	**6.9**
Czech Republic		0	0	20 119	14 715	**42 353**	**37 766**	**19 650**	**16 307**	**6.9**	**6.4**
Denmark		36 387	45 893	9 470	6 219	**115 222**	**92 670**	**86 177**	**63 625**	**18.2**	**16.3**
Finland		6 032	14 195	7 459	7 646	**39 145**	**34 775**	**16 722**	**12 450**	**7.3**	**7.4**
France		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		13 532	12 609	29 809	14 872	**87 857**	**70 026**	**57 690**	**39 793**	**13.4**	**8.8**
Hungary		0	0	8 067	7 083	**41 074**	**37 492**	**24 111**	**20 176**	**8.2**	**6.7**
Italy		0	0	5 277	6 610	**81 343**	**60 065**	**42 162**	**21 984**	**5.7**	**4.8**
Korea	-3	0	3 912	434	181	**11 123**	**3 891**	**-7 233**	**-14 477**	**1.1**	**-1.3**
Netherlands		5 949	12 382	4 130	7 286	**63 106**	**76 947**	**36 043**	**50 869**	**8.1**	**11.6**
New Zealand		1 655	12 984	2 670	2 037	**33 313**	**28 609**	**13 579**	**8 990**	**5.5**	**5.5**
Norway		4 876	14 435	9 061	3 775	**87 050**	**60 368**	**43 419**	**16 733**	**7.6**	**5.4**
Poland		0	0	9 813	8 235	**26 050**	**29 879**	**6 011**	**11 371**	**4.4**	**5.3**
Portugal		0	0	-878	2 087	**76 130**	**48 254**	**52 112**	**25 034**	**7.7**	**5.9**
Spain	-2	0	0	1 771	1 741	**26 324**	**21 488**	**13 424**	**8 736**	**5.8**	**5.0**
Sweden		19 654	24 984	9 372	8 735	**76 871**	**67 635**	**44 139**	**34 883**	**13.0**	**11.5**
Turkey	-1	0	0	1 072	-3 945	**20 583**	**17 345**	**11 240**	**7 617**	**6.3**	**5.6**
United Kingdom		3 697	46 808	10 702	6 799	**92 825**	**123 391**	**73 267**	**109 394**	**13.6**	**22.2**
United States		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*5 077*	*11 366*	*8 699*	*5 878*	*61 659*	*54 212*	*35 902*	*29 067*	*8.2*	*8.8*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

A8

Table A8.4.

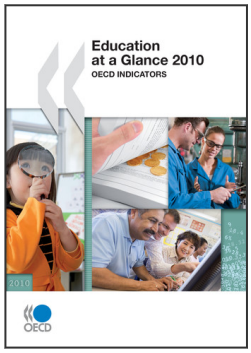
Public net present value for an individual obtaining tertiary education as part of initial education (2006)

In equivalent USD, converted using PPPs for GDP

		Direct cost		Foregone taxes on earnings		Total costs		Income tax effect		Social contribution effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries											
Australia	-1	-13 209	-13 209	-7 002	-6 993	**-20 211**	**-20 201**	104 353	69 331	0	0
Austria		-43 046	-43 046	-12 524	-12 533	**-55 569**	**-55 579**	122 593	72 558	45 045	47 603
Belgium	-1	-20 552	-20 552	-8 132	-7 822	**-28 684**	**-28 374**	141 880	94 839	48 161	51 975
Canada		-35 321	-35 321	-3 910	-3 998	**-39 231**	**-39 319**	91 361	51 905	5 829	16 197
Czech Republic		-10 644	-10 644	-5 720	-4 671	**-16 363**	**-15 315**	62 961	41 188	32 502	25 068
Denmark		-51 220	-51 220	-300	-304	**-51 519**	**-51 524**	113 669	48 776	16 996	10 711
Finland		-33 779	-33 779	-7 386	-7 389	**-41 165**	**-41 168**	117 875	59 360	21 053	12 323
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-33 206	-33 206	-13 957	-14 353	**-47 163**	**-47 559**	135 266	64 369	63 929	47 615
Hungary		-14 177	-14 177	-8 135	-6 807	**-22 312**	**-20 984**	129 176	94 359	46 695	32 550
Italy		-18 847	-18 847	-11 023	-10 338	**-29 870**	**-29 185**	93 319	61 193	24 717	16 803
Korea	-3	-4 619	-4 619	-1 947	-2 001	**-6 566**	**-6 621**	17 850	6 749	12 207	16 129
Netherlands		-34 104	-34 104	-33 289	-28 523	**-67 393**	**-62 627**	155 040	89 205	12 385	23 504
New Zealand		-14 504	-14 504	-3 212	-3 199	**-17 716**	**-17 703**	47 405	22 571	1 718	1 230
Norway		-34 075	-34 075	-13 359	-13 223	**-47 434**	**-47 298**	86 804	52 493	18 405	14 699
Poland		-10 791	-10 791	-9 092	-6 870	**-19 883**	**-17 662**	32 030	17 158	69 015	47 139
Portugal		-11 848	-11 848	-4 639	-3 578	**-16 487**	**-15 425**	79 034	92 671	28 884	36 367
Spain	-2	-22 289	-22 289	-2 379	-2 249	**-24 668**	**-24 538**	39 570	35 882	9 745	10 001
Sweden		-33 959	-33 959	-16 172	-16 054	**-50 131**	**-50 013**	87 077	32 033	6 612	8 089
Turkey	-1	-9 567	-9 567	-3 830	-3 333	**-13 397**	**-12 900**	18 209	19 194	16 010	17 528
United Kingdom		-24 919	-24 919	-18 289	-7 691	**-43 208**	**-32 610**	110 580	72 890	23 065	36 046
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-23 734*	*-23 734*	*-9 215*	*-8 097*	*-32 949*	*-31 830*	*89 303*	*54 936*	*25 149*	*23 579*

		Transfers effect		Unemployment effect		Total benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
OECD countries											
Australia	-1	0	0	396	3 366	**104 749**	**72 697**	**84 538**	**52 495**	**12.4**	**12.5**
Austria		0	0	5 176	2 180	**172 815**	**122 341**	**117 246**	**66 762**	**8.7**	**7.1**
Belgium	-1	0	0	6 402	13 646	**196 443**	**160 460**	**167 759**	**132 086**	**15.2**	**17.9**
Canada		0	0	4 182	2 412	**101 372**	**70 514**	**62 141**	**31 195**	**7.8**	**6.5**
Czech Republic		0	0	4 136	6 755	**99 599**	**73 011**	**83 236**	**57 696**	**16.2**	**13.6**
Denmark		4 702	9 014	-2 830	-149	**132 536**	**68 351**	**81 017**	**16 827**	**7.3**	**4.5**
Finland		0	4 733	9 744	6 412	**148 672**	**82 828**	**107 507**	**41 659**	**10.1**	**7.1**
France		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		0	0	27 168	11 305	**226 362**	**123 289**	**179 199**	**75 730**	**11.8**	**8.4**
Hungary		0	0	7 788	8 644	**183 660**	**135 553**	**161 347**	**114 569**	**21.8**	**18.4**
Italy		0	0	-1 567	1 033	**116 469**	**79 028**	**86 599**	**49 844**	**10.8**	**8.3**
Korea	-3	0	0	504	31	**30 560**	**22 909**	**23 994**	**16 288**	**9.5**	**9.2**
Netherlands		0	0	3 428	5 056	**170 854**	**117 765**	**103 461**	**55 138**	**7.5**	**6.3**
New Zealand		194	3 416	-457	-220	**48 860**	**26 996**	**31 144**	**9 293**	**8.3**	**5.9**
Norway		0	0	-201	2 548	**105 007**	**69 740**	**57 573**	**22 442**	**6.2**	**4.9**
Poland		0	0	14 706	14 534	**115 750**	**78 831**	**95 867**	**61 169**	**15.6**	**13.4**
Portugal		0	0	5 154	3 541	**113 072**	**132 578**	**96 585**	**117 153**	**18.3**	**17.8**
Spain	-2	0	0	2 160	4 106	**51 476**	**49 989**	**26 808**	**25 451**	**6.2**	**6.6**
Sweden		0	64	1 432	2 339	**95 121**	**42 526**	**44 990**	**-7 488**	**5.7**	**2.3**
Turkey	-1	0	0	931	4 291	**35 150**	**41 014**	**21 753**	**28 113**	**9.2**	**9.1**
United Kingdom		0	996	4 881	4 966	**138 526**	**114 899**	**95 318**	**82 289**	**10.4**	**10.1**
United States		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*245*	*911*	*4 657*	*4 840*	*119 353*	*84 266*	*86 404*	*52 436*	*11.0*	*9.5*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225



From:

Education at a Glance 2010

OECD Indicators

Access the complete publication at:

https://doi.org/10.1787/eag-2010-en

Please cite this chapter as:

OECD (2010), "What are the incentives to invest in education?", in *Education at a Glance 2010: OECD Indicators*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/eag-2010-12-en

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.