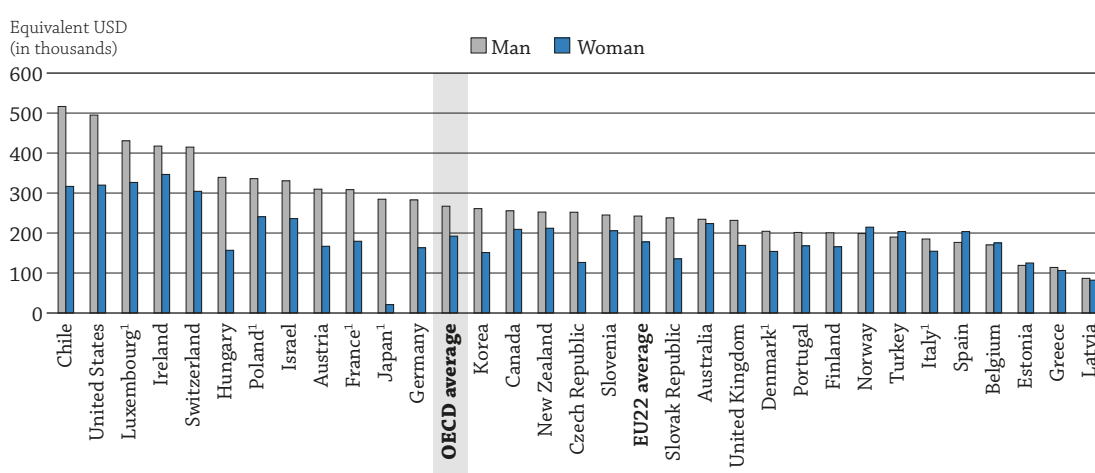


WHAT ARE THE FINANCIAL INCENTIVES TO INVEST IN EDUCATION?

- Not only does education pay off for individuals financially, but the public sector also benefits from having a large proportion of tertiary-educated individuals through, for instance, greater tax revenues and social contributions.
- Adults who complete tertiary education benefit from substantial returns on investment, because they are more likely to be employed and to earn more than adults without tertiary education.
- Across OECD countries on average, a man invests around USD 52 500 (direct costs plus foregone earnings) to earn a tertiary degree, while a woman invests around USD 41 700. Because men tend to have higher earnings and employment rates, they also have higher total benefits over their career: USD 319 600 for men, compared to USD 234 000 for women.

Figure A5.1. Private net financial returns for a man or a woman attaining tertiary education (2015)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%



1. Reference year differs from 2015. Refer to the source table for more details.

Countries are ranked in descending order of private net financial returns for a man.

Source: OECD (2018), Tables A5.1a and A5.1b. See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

StatLink <https://doi.org/10.1787/888933802494>

Context

Investing time and money in education is an investment in human capital. Better chances of employment (see Indicator A3) and higher earnings (see Indicator A4) are strong incentives for adults to invest in education and postpone employment. Although women currently have higher levels of education than men on average (see Indicator A1), men reap more benefits from their investment, as they have better employment and earning outcomes from education, on average.

Countries benefit from more highly educated individuals, through reduced public expenditure on social welfare programmes and higher revenues earned through taxes paid once individuals enter the labour market. As both individuals and governments benefit from higher levels of educational attainment, it is important to consider the financial returns to education alongside other indicators, such as completion and access to higher education (see Indicator B7).

It is crucial for policy makers to understand the economic incentives to invest in education. For instance, large increases in labour-market demand for more highly educated workers can drive up earnings and returns until supply catches up. Such conditions signal a need for additional investment in education.

Other factors not reflected in this indicator also affect the returns to education. The financial returns may be affected by the field of study and by the country-specific economic, labour-market and institutional context, as well as by social and cultural factors. Furthermore, returns to education are not limited to financial returns, but also include other economic outcomes, such as increased productivity boosting economic growth, and social outcomes, such as higher involvement towards environmental protection (see Indicator A6).

■ Other findings

- In most OECD countries, the main cost for tertiary education is not direct payments, such as tuition fees and living expenses, but the earnings individuals forego while they are in school. This is true even when taking into account the fact that many students work while pursuing further education.
- Private benefits from investing in education depend on countries' tax and social benefits systems. For example, in Chile, Estonia and Korea, income taxes and social contributions amount to less than a quarter of the gross earning benefits for a man attaining tertiary education, while in Belgium, they add up to more than half of the gross earning benefits.
- For all countries with available data, the private net financial returns from obtaining a bachelor's, master's or doctoral degree are at least 40% higher than the returns from obtaining a short-cycle tertiary degree.

■ Note

This indicator provides information on the incentives to invest in further education by considering its costs and benefits, including net financial returns and internal rate of return. It examines the choice between pursuing higher levels of education and entering the labour market, focusing on two scenarios:

- 1) investing in tertiary education versus entering the labour market with an upper secondary degree
- 2) investing in upper secondary education versus entering the labour market without an upper secondary degree.

Two types of investors are considered:

- 1) the individual (referred to here as “private”) who chooses to pursue higher levels of education and the additional net earnings and costs he or she can expect
- 2) the government (referred to here as “public”) that decides to invest in education and the additional revenue it would receive (e.g. as tax revenues) and the costs involved.

This indicator estimates the financial returns on investment in education only up to a theoretical retirement age of 64 and, therefore, does not take pensions into account. Values are presented separately for men and women, to account for gender differences in earnings and unemployment rates. The direct costs to education presented in this indicator do not take into account student loans.

Please note that due to continuous improvements to this indicator's methodology, the values presented in this edition of *Education at a Glance* are not comparable with those in previous editions.

Analysis

Financial incentives for individuals to invest in tertiary education

Figure A5.1 shows that, on average across OECD countries, investing in education pays off in the long run for both men and women. The gains associated with a higher level of education that individuals can expect to receive over their career exceed the costs they bear during their studies. This is true for tertiary education, and it also holds for upper secondary education (Figure A5.1, Tables A5.1a and b, and Tables A5.4a and b, available on line).

Across OECD countries, the average private financial returns from tertiary education for a man are USD 267 100. Although young women tend to complete higher education more often than young men (see Indicator A1), women tend to have lower relative net financial returns to investing in tertiary education than men. For a woman, on average, net financial returns from tertiary education are USD 192 300, representing less than three-quarters of those for a man (Figure A5.1).

The private financial returns from tertiary education are higher for men than for women in all OECD countries with available data, with the exception of Belgium, Estonia, Norway, Spain and Turkey. Women in these countries still faced lower earnings and employment rates than men in 2016, but the gain from a tertiary degree, as compared to attaining only upper secondary, is higher for women than for men. This means that, in these countries, the gap between earnings and employment by level of educational attainment is higher for women than for men.

The generally lower returns for women can be attributed to a variety of factors, such as women's lower earnings, lower employment rates, a higher share of part-time work on average and differences in choices of field of study between men and women. The availability of affordable, high-quality early childhood education and care can also influence women's employment outcomes. Japan has the largest gender difference, with net financial returns for a tertiary-educated man about 13 times higher than for a woman with a similar level of education. In Japan, the tax system and the labour-market structure tend to drive down women's returns from tertiary education. However, private net financial returns may increase for Japanese women in the future, as the current government aims to promote higher labour-market participation among women by introducing a number of specific policy measures (Cabinet Secretariat, 2016^[1]) (Tables A5.1a and b).

Another way to analyse returns to education is through the internal rate of return, which is the real interest rate that would equalise the costs and benefits, leading the investment to break even. It can be interpreted as the interest rate on the investment made on a higher level of education that an individual can expect to receive every year during a working-age life. On average across OECD countries, the internal rate of return to tertiary education is 14% for men and 16% for women. The higher internal rate of return for women reflects the fact that their initial investment to attain the higher level of education (in terms of foregone earnings) is lower (Tables A5.1a and b).

The costs and benefits of tertiary education for individuals

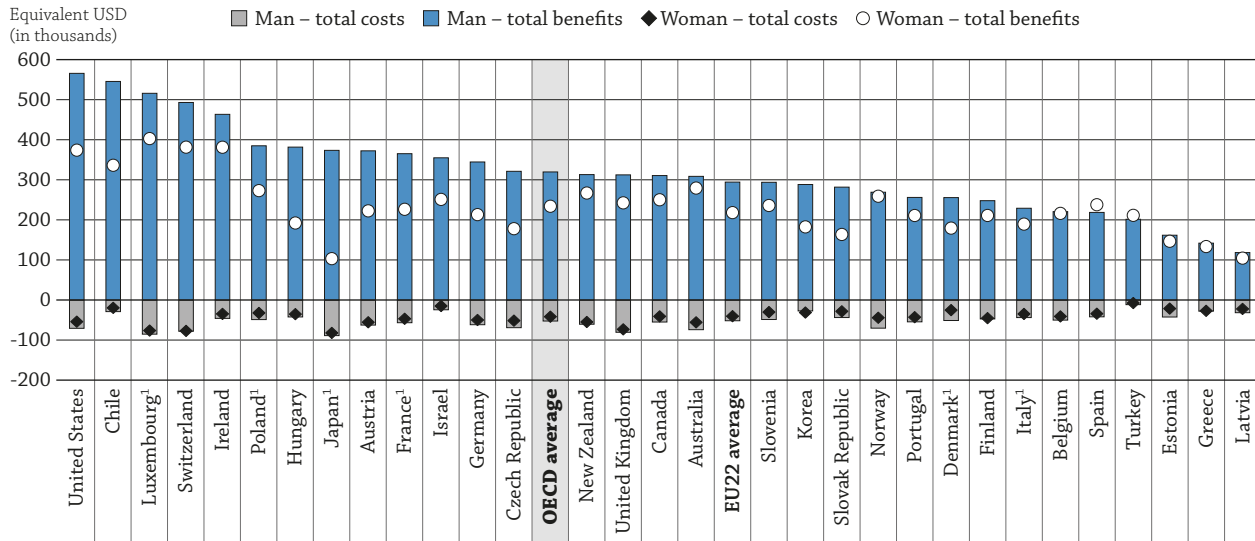
Private net financial returns are the difference between the costs and benefits associated with attaining an additional level of education. In this analysis, the costs include direct costs of attaining education and foregone earnings, while the benefits include earnings from employment and unemployment benefits. To show the impact of the tax system on total benefits, the income tax effect, social contributions effect and social transfers effect are also analysed (see *Definitions* section at the end of this indicator).

Total private costs (composed of direct costs and foregone earnings) generally rise with the level of education. On average across OECD countries, the total direct cost for a man or a woman to attain tertiary education is about USD 9 000. However, in most countries, the main costs are foregone earnings, i.e. the earnings an individual could expect to receive if he/she decided not to pursue further education. These vary substantially across countries, depending on the length of education, earnings levels and the difference in earnings across levels of educational attainment. The current model also takes into account the fact that, in many countries, it is common for students to work while studying, thus decreasing their foregone earnings and the total cost of education. Indicator A6 in *Education at a Glance 2017* (OECD, 2017^[2]) shows the prevalence of student employment and the level of student earnings across OECD and partner countries.

Foregone earnings for a man while attaining tertiary education vary from USD 8 500 in Turkey to more than USD 80 000 in Luxembourg. When direct costs and foregone earnings are combined, Japan has the highest total private costs. A man or woman attaining tertiary education in Japan can expect total costs to be more than seven times higher than those in Turkey (Tables A5.1a and b).

Figure A5.2. Private costs and benefits of education for a man or a woman attaining tertiary education (2015)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%



1. Reference year differs from 2015. Refer to the source table for more details.

Countries are ranked in descending order of total private benefits for a man.

Source: OECD (2018), Tables A5.1a and A5.1b. See Source section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

StatLink <https://doi.org/10.1787/888933802513>

Figure A5.2 shows that the earning advantages of higher education bring considerable benefits for individuals, but how men and women benefit can depend on country-specific labour-market outcomes. On average, the total benefit for a tertiary-educated man is USD 319 600, while the total benefit for a tertiary-educated woman is USD 234 000. This means that, over a career of 40 years, a tertiary-educated man will get about USD 2 100 more per year in total benefits (compared to a man with only upper secondary education) than a woman with the same level of education. This is mainly due to gender gaps in earnings (see Indicator A4), but is also related to higher inactivity and unemployment rates for women (see Indicator A3) (Tables A5.1a and b).

While further education yields higher earnings over the career of an individual, private benefits from investing in education also depend on countries' tax and social benefits systems (Brys and Torres, 2013_[3]). For instance, in Chile, Estonia and Korea, income taxes and social contributions amount to less than a quarter of the gross earning benefits for a man attaining tertiary education, while in Belgium they add up to more than half of the gross earning benefits. As women tend to have lower earnings, they often fall into lower income tax brackets. For example, in Greece, Ireland and Israel, the income tax and social contributions relative to gross earnings for a tertiary-educated woman are about 10 percentage points lower than for a tertiary-educated man (Tables A5.1a and b). Taxes and social contributions also relate to pensions and retirement programmes, which are not considered in this indicator.

Financial incentives for governments to invest in tertiary education

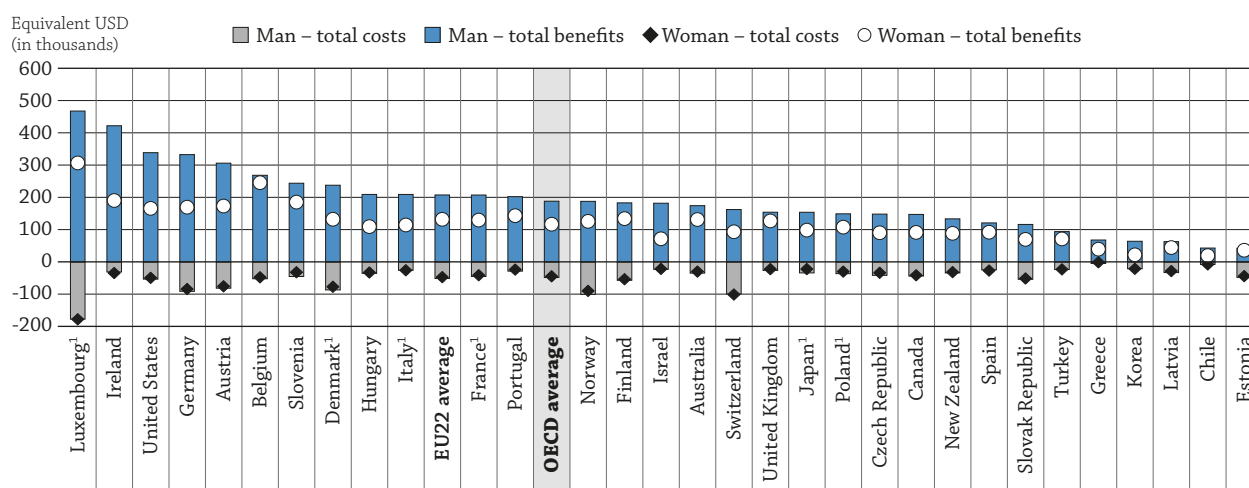
Governments are major investors in education (see Indicator C3). From a budgetary point of view, it is important to analyse if these investments will be recovered, particularly in an era of substantial fiscal constraints. Since higher levels of educational attainment tend to translate into higher earnings (see Indicator A4), investments in education generate higher public returns, because tertiary-educated adults pay higher income taxes and social contributions and require fewer social transfers. On average across OECD countries, the public net financial returns are about USD 135 600 for a man who has completed tertiary education and USD 72 100 for a woman (Tables A5.2a and b).

The net financial returns on investment for governments are generally closely related to private returns. Countries where individuals benefit the most from pursuing tertiary education are also those where governments gain the largest returns. This is the case in Ireland, Luxembourg and the United States, countries with very large net financial private and public returns.

However, different tax systems can considerably affect whether public returns will follow private returns. Chile, for example, has the highest private returns for a man attaining tertiary education, but because it collects a smaller share of individuals' additional earnings in the form of taxes and social contributions, it has the third-lowest public returns (Tables A5.1a and A5.2a).

Figure A5.3. Public costs and benefits of education for a man or a woman attaining tertiary education (2015)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%



1. Reference year differs from 2015. Refer to the source table for more details.

Countries are ranked in descending order of total public benefits for a man.

Source: OECD (2018), Tables A5.2a and A5.2b. See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

StatLink <https://doi.org/10.1787/888933802532>

The costs and benefits of tertiary education for governments

Public net financial returns are based on the difference between costs and benefits associated with an individual attaining an additional level of education. In this analysis, the costs include direct public costs for supporting education and foregone taxes on earnings, while the benefits are calculated using income tax, social contributions, social transfers and unemployment benefits.

For governments, direct costs represent the largest share of total public costs for tertiary education, even though student loans are not taken into account in this indicator. This is particularly true in countries such as Denmark, Finland and Norway, where students pay low or no tuition fees and have access to generous public subsidies for higher education (see Indicator C5). Countries with high direct costs are also the countries with the largest total public costs, reaching over USD 100 000 for men in Luxembourg and Norway. In contrast, Chile and Greece have the lowest total public costs (less than USD 10 000 for men and women) of all OECD countries. On average across OECD countries, the total public cost to attain tertiary education is USD 48 500 for a man and USD 44 700 for a woman (Tables A5.2a and b).

Governments offset the costs of direct investment and foregone tax revenue associated with education by receiving additional tax revenue and social contributions from higher-paid workers, who often have higher educational attainment. On average, these total public benefits are USD 188 100 for a man with tertiary education and USD 116 800 for a woman (Tables A5.2a and b).

Total public benefits differ between men and women, mainly due to differences in labour-market outcomes. This suggests that governments have a role to play in easing the integration and participation of women in the labour market, in order to assure higher gains from the large investment that women make in their education. On average, the total public benefits of education for a man attaining tertiary education are about 60% larger than the total public benefits for a tertiary-educated woman. Across OECD countries, Luxembourg has the largest total public benefits of tertiary education for a man (USD 467 700) and for a woman (above USD 306 800) (Tables A5.2a and b).

The internal rate of return to governments is higher for a man (10% for tertiary and 9% for upper secondary) than for a woman with similar levels of education (8% for tertiary and 5% for upper secondary). This difference by gender is due to the fact that the public costs (i.e. public investment) are very similar for men and women while the public benefits for a man are higher than the public benefits for a woman (Tables A5.2a and b, and Tables A5.5a and b, available on line).

On average, the total public benefits (USD 188 100) for a tertiary-educated man can be broken down into income tax effect (USD 132 500), social contribution effect (USD 51 900), transfers effect (USD 600) and unemployment benefits effect (USD 3 100). For a tertiary-educated woman, the total public benefits (USD 116 800) can be broken down into USD 74 700 in income tax effect, USD 37 400 in social contribution effect, USD 2 700 in transfers effect and USD 2 000 in unemployment benefits effect (Tables A5.2a and b). The transfers effect for a tertiary-educated man are low on average and close to zero in most countries, because even those with only upper secondary attainment are likely to reach earnings that are high enough to not qualify for substantial social transfers from the government. For women, the transfers effect is positive in most countries and higher on average. This difference reflects the generally lower earnings of women compared to men, particularly among those without tertiary education, which makes them more likely to receive social transfers from the government.

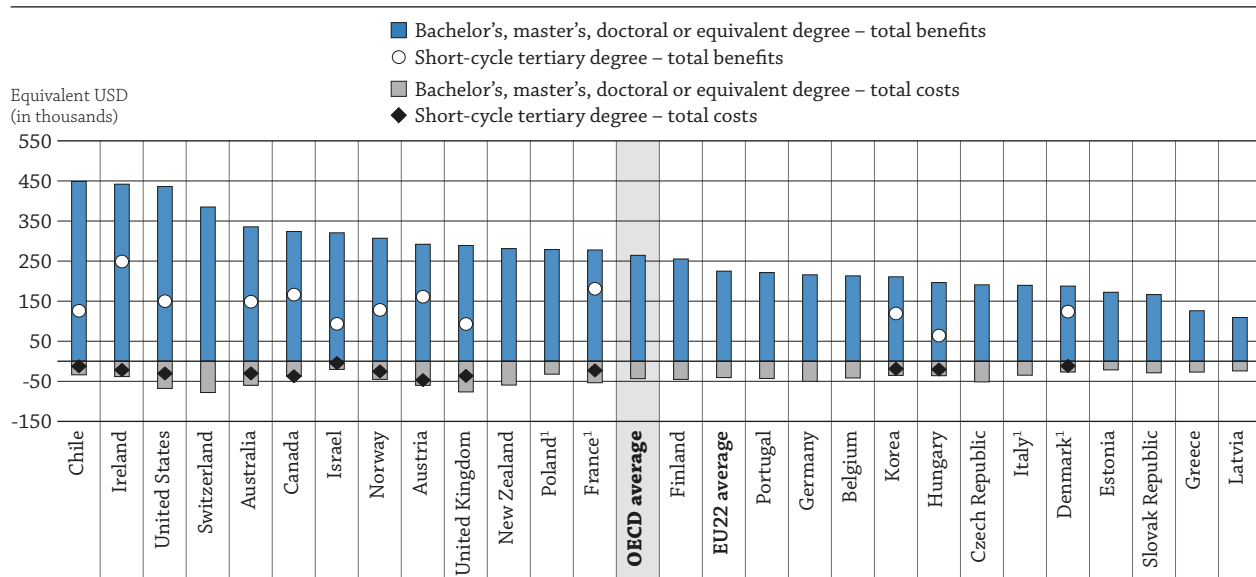
Higher taxes can sometimes deter private investment in different areas (including education), and a number of countries have tax policies that effectively lower the actual tax paid by adults, particularly by those in high-income brackets. For example, tax relief for interest payments on mortgage debt has been introduced in many OECD countries to encourage home ownership. These benefits favour those with higher levels of education and high marginal tax rates. The tax incentives for housing are particularly large in the Czech Republic, Denmark, Finland, Norway and the United States (Andrews, Caldera Sánchez and Johansson, 2011^[4]).

Private and public costs and benefits by level of tertiary education

The returns for tertiary education can be broken down into short-cycle tertiary (ISCED 5) and bachelor's, master's and doctoral or equivalent level (ISCED 6 to 8). The composition of the population with qualifications at each tertiary level differs between countries (see Indicator A1), and the mix of qualifications can have a significant effect on the financial returns to education for the aggregate tertiary level (Figure A5.4).

Figure A5.4. Private costs and benefits of education for a woman attaining a short-cycle tertiary degree or a bachelor's, master's and doctoral or equivalent degree (2015)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%




Note: Short-cycle tertiary degree corresponds to ISCED level 5 and bachelor's, master's, doctoral or equivalent degree corresponds to ISCED levels 6, 7 and 8.

1. Year of reference differs from 2015. Refer to the source table for further details.

Countries are ranked in descending order of total private benefits for a woman with a bachelor's, master's, doctoral or equivalent degree.

Source: OECD (2018), Table A5.3b. See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

StatLink  <https://doi.org/10.1787/888933802551>

A5

For all countries with available data, the private net financial returns from obtaining a bachelor's, master's, doctoral or equivalent degree are greater than from obtaining a short-cycle tertiary degree. With the exception of Korea, this is also the case for the public net financial returns. Although the total costs of a bachelor's, master's, doctoral or equivalent degree tend to be higher than those of a short-cycle tertiary degree, the total benefits accrued along individuals' working lives compensate for the higher initial costs (Tables A5.3a and b).

Therefore, private financial returns for the aggregate tertiary level will underestimate the value of investing in bachelor's, master's and doctoral degrees, especially in countries with a larger share of adults whose highest level of attainment is short-cycle tertiary.

Box A5.1. The effect of the discount rate on the net financial returns to education

The calculation of the financial returns, or the net present value (NPV), of education corresponds to a cost-benefit analysis that converts future expected flows into a present value by using a discount rate. The discount rate takes into account the fact that money tomorrow is worth less than money today, and must therefore be "discounted" at a specific rate to find its current worth. The choice of the discount rate is challenging, and it will make a considerable difference when analysing the returns to long-term investments, as is the case with investment in education.


The results presented in the tables and figures of this indicator are calculated using a discount rate of 2%, based on the average real interest on government bonds across OECD countries. However, it can be argued that education is not a risk-free investment, and that the discount rate should therefore be higher.

OECD countries that perform similar cost-benefit analysis use higher discount rates than 2%, but the rate used varies widely across countries. Table A5.a shows the discount rate used by some OECD governments to assess public investments, not necessarily education-related investments.

Table A5.a. Discount rates used by governments in national cost-benefit analysis

	Discount rate (%)
Australia	7.0
Canada	8.0
Chile	6.0
France	4.0
Germany	3.0
Ireland	5.0
Italy	5.0
New Zealand	6 to 8
Norway	3.5
United Kingdom	3.5
United States	7.0

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

StatLink  <https://doi.org/10.1787/888933802570>

In order to assess the magnitude of the impact of the discount rate it is helpful to perform a sensitivity analysis. Table A5.b shows how the net present value for a man attaining tertiary education changes when three different discount rates are used. Changing from a discount rate of 2% to a rate of 3.75% reduces the NPV by over 30% in all countries with available data. If a discount rate of 8% is used, the NPV falls by over 70% in all countries and even becomes negative in Norway. These comparisons highlight the sensitivity of the NPV results to changes in the discount rate.

...

Table A5.b. Net financial returns for a man attaining tertiary education, by discount rate (2015)
As compared with a man attaining upper secondary education, in equivalent USD converted using PPPs for GDP


		Discount rate		
		2%	3.75%	8%
		(1)	(2)	(3)
Australia		234 500	132 300	22 800
Austria		309 700	166 500	25 300
Belgium		170 300	94 600	15 400
Canada		255 600	152 500	41 000
Chile		516 500	334 300	134 300
Czech Republic		252 100	145 700	29 900
Denmark		204 400	115 200	21 800
Estonia		119 200	68 400	12 500
Finland		200 600	116 900	27 500
France ¹		308 500	178 300	43 500
Germany		282 800	166 300	41 400
Greece		114 000	64 300	12 800
Hungary		339 300	221 500	85 800
Ireland		417 500	268 000	101 800
Israel		330 500	224 100	98 100
Italy ¹		185 100	93 600	4 500
Japan ²		284 600	160 400	28 200
Korea		261 000	168 900	67 100
Latvia		86 700	52 400	13 000
Luxembourg ¹		430 600	249 100	58 800
New Zealand		252 500	151 300	42 200
Norway		198 700	98 700	- 2 400
Poland ¹		336 000	210 300	70 300
Portugal		201 500	107 300	13 300
Slovak Republic		237 900	143 400	39 500
Slovenia		245 100	141 900	33 400
Spain		176 600	100 900	22 200
Switzerland		414 900	248 500	69 500
Turkey		189 900	124 300	51 100
United Kingdom		231 700	134 800	27 700
United States		495 000	311 400	108 700
OECD average		267 100	159 552	43 903
EU22 average		242 500	147 043	36 662

Note: Values are based on the difference between men who attained a tertiary education compared with those who have attained an upper secondary education. Values have been rounded up to the nearest hundred.

1. Year of reference 2014.

2. Year of reference 2012. Students' earnings are not included in the calculation of foregone earnings.

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

StatLink  <https://doi.org/10.1787/888933802589>

Definitions

Adults refer to 15-64 year-olds.

Direct costs are the direct expenditure on education per student during the time spent in school. Direct cost to education does not include student loans.

- **Private direct costs** are the total expenditure by households on education. They include net payments to educational institutions as well as payments for educational goods and services outside of educational institutions (school supplies, tutoring, etc.).
- **Public direct costs** are the spending by government on a student's education. They include direct public expenditure on educational institutions, government scholarships and other grants to students and households, and transfers and payments to other private entities for educational purposes. They do not include student loans.

Foregone earnings are the net earnings an individual would have had if he or she had entered the labour market and successfully found a job minus the net earnings an individual can expect to have while studying.

A5

Foregone taxes on earnings are the additional tax revenues the government would have received if the individual had chosen to enter the labour force and successfully found a job instead of choosing to pursue further studies.

Gross earnings benefits are the discounted sum of earnings premiums over the course of a working-age life associated with a higher level of education, provided that the individual successfully enters the labour market.

The **income tax effect** is the discounted sum of additional levels of income tax paid by the private individual or earned by the government over the course of a working-age life associated with a higher level of education.

The **internal rate of return** is the (hypothetical) real interest rate equalising the costs and benefits related to the educational investment. It can be interpreted as the interest rate an individual can expect to receive every year during a working-age life on the investment made on a higher level of education.

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

Net financial returns are the net present value of the financial investment in education, the difference between the discounted financial benefits and the discounted financial cost of education, representing the additional value that education produces over and above the 2% real interest that is charged on these cash flows.

The **social contribution effect** is the discounted sum of additional employee social contributions paid by the private individual or received by the government over the course of a working-age life and associated with a higher level of education.

The **transfers effect** is the discounted sum of additional social transfers from the government to the private individual associated with a higher education level over the course of a working-age life. Social transfers include two types of benefits: housing benefits and social assistance.

The **unemployment benefit effect** is the discounted sum of additional unemployment benefits associated with a higher education level over the course of a working-age life and received during periods of unemployment.

Methodology

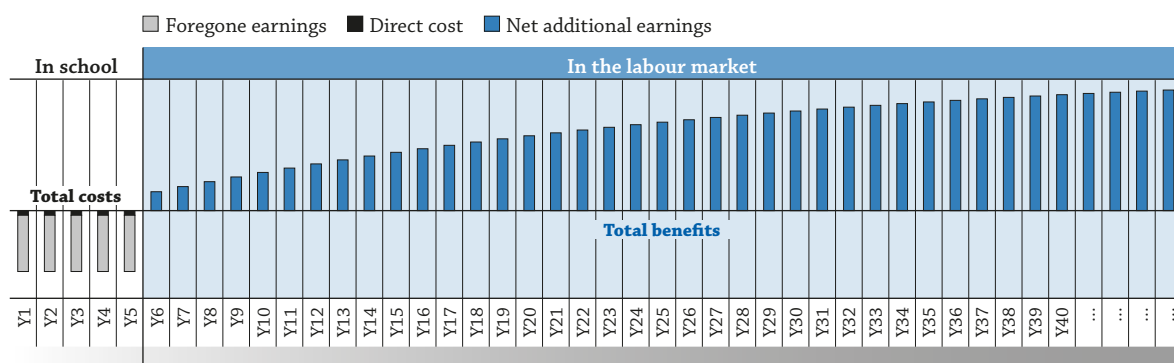
This indicator estimates the financial returns on investment in education from the age of entry into further education to a theoretical retirement age of 64. Returns to education are studied purely from the perspective of financial investment that weighs the costs and benefits of the investment.

Two periods are considered (Diagram 1):

- 1) time spent in school during which the private individual and the government pay the cost of education
- 2) time spent in the labour market during which the individual and the government receive the added payments associated with further education.

In calculating the returns to education, the approach taken here is the net present value of the investment. To allow direct comparisons of costs and benefits, the NPV expresses present value for cash transfers happening at different times. In this framework, costs and benefits during a working-age life 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 fixed interest rate (discount rate).

Diagram 1. Financial returns on investment in education over a life-time for a representative individual



To set a value for the discount rate, long-term government bonds have been used as a benchmark. The choice of discount rate is challenging, 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 (Box A5.1). To allow for comparability and to facilitate interpretation of results, the same discount rate (2%) is applied across all OECD countries. All values presented in the tables in this indicator are in NPV equivalent USD using purchasing power parities (PPPs).

Changes in the methodology between *Education at a Glance 2018* and 2017

Three important methodological changes were introduced in this edition:

- 1) The current model includes student earnings in the calculation of the foregone earnings. In the previous edition, it was assumed that students did not work and did not have earnings or pay taxes. The model continues to assume that students do not receive any transfers from the government.
- 2) The current model takes into account the probability of individuals being inactive, by using the employment rate instead of 1 minus the unemployment rate as the probability of having earnings.
- 3) Pooled earnings data from three different years are used instead of the earnings from a single reference year.

In addition, the reference year for this indicator has been moved one year forward. The reference year for this edition is 2015, while the reference year for last year's edition was 2013.

Please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018^[5]) for more information and Annex 3 for country-specific notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

Lithuania was not an OECD member at the time of preparation of this publication. Accordingly, Lithuania does not appear in the list of OECD members and is not included in the zone aggregates.

Source

The source for the direct costs of education is the UOE data collection on finance (year of reference 2015 unless otherwise specified in the tables).

The data on gross earnings are from the OECD Network on Labour Market and Social Outcomes earnings data collection. Earnings are age-, gender- and attainment-level specific. For the calculation of this indicator, data on earnings has been pooled from three different years (2013-15). A moving average will be used for future editions.

Income tax data are computed using the OECD Taxing Wages model, which determines the level of taxes based on a given level of income. This model computes the level of the tax wedge on income for several household composition scenarios. For this indicator, a single worker with no children is used. For country-specific details on income tax in this model, see *Taxing Wages 2017* (OECD, 2017^[6]).

Employee social contributions are computed using the OECD Taxing Wages model's scenario of a single worker of age 40 with no children. For country-specific details on employee social contributions in this model, see *Taxing Wages 2017* (OECD, 2017^[6]).

Social transfers and unemployment benefits are computed using the OECD Tax-Benefit model, assuming a single worker of age 40 with no children. Individuals are considered eligible for full unemployment benefits during unemployment. For country-specific details on social transfers or unemployment benefits in the Tax-Benefit model, see OECD Benefits and Wages country-specific information, available on line at www.oecd.org/els/soc/benefits-and-wages-country-specific-information.htm.

Note regarding data from Israel

The statistical data for Israel are supplied by and are under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

References

- Andrews, D., A. Caldera Sánchez and Å. Johansson (2011), "Housing markets and structural policies in OECD countries", [4] *OECD Economics Department Working Papers*, No. 836, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5kgk8t2k9vf3-en>.
- Brys, B. and C. Torres (2013), "Effective personal tax rates on marginal skills investments in OECD countries: A new [3] methodology", *OECD Taxation Working Papers*, No. 16, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5k425747xbr6-en>.

A5

Cabinet Secretariat (2016), *Japan Revitalization Strategy (Growth Strategy) Revised in 2015: Main Achievements to Date and Further Reforms*, www.kantei.go.jp/jp/singi/keizaisaisei/pdf/new_seika_torikumien.pdf. [1]

OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264304444-en>. [5]

OECD (2017), *Education at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2017-en>. [2]

OECD (2017), *Taxing Wages 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/tax_wages-2017-en. [6]

Indicator A5 Tables


StatLink  <https://doi.org/10.1787/888933802361>

Table A5.1a Private costs and benefits for a man attaining tertiary education (2015)

Table A5.1b Private costs and benefits for a woman attaining tertiary education (2015)

Table A5.2a Public costs and benefits for a man attaining tertiary education (2015)

Table A5.2b Public costs and benefits for a woman attaining tertiary education (2015)

Table A5.3a Private/public costs and benefits for a man attaining tertiary education, by level of tertiary education (2015)

Table A5.3b Private/public costs and benefits for a woman attaining tertiary education, by level of tertiary education (2015)

WEB Table A5.4a Private costs and benefits for a man attaining upper secondary education (2015)

WEB Table A5.4b Private costs and benefits for a woman attaining upper secondary education (2015)

WEB Table A5.5a Public costs and benefits for a man attaining upper secondary education (2015)

WEB Table A5.5b Public costs and benefits for a woman attaining upper secondary education (2015)

Cut-off date for the data: 18 July 2018. Any updates on data can be found on line at <http://dx.doi.org/10.1787/eag-data-en>. Data can also be found at <http://stats.oecd.org/>, Education at a Glance Database.

Table A5.1a. Private costs and benefits for a man attaining tertiary education (2015)
*As compared with a man attaining upper secondary education, in equivalent USD converted using PPPs for GDP,
 future costs and benefits are discounted at a rate of 2%*

	Direct costs	Foregone earnings	Total costs	Earnings benefits decomposition (taking into account the unemployment effect)				Unemployment benefits effect	Total benefits	Net financial returns	Internal rate of return
				Gross earnings benefits	Income tax effect	Social contribution effect	Transfers effect				
	(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)	(7)	(8)	(9)=(4)+(5)+(6)+(7)+(8)	(10)=(9)+(3)	(11)
OECD											
Australia	- 31 500	- 42 600	- 74 100	482 900	- 171 800	0	0	- 2 500	308 600	234 500	10%
Austria	0	- 62 600	- 62 600	678 400	- 208 100	- 95 700	0	- 2 300	372 300	309 700	10%
Belgium	- 1 400	- 48 800	- 50 200	489 000	- 187 100	- 70 300	0	- 11 100	220 500	170 300	10%
Canada	- 20 800	- 34 200	- 55 000	457 800	- 125 300	- 14 900	0	- 7 000	310 600	255 600	13%
Chile	- 10 400	- 18 600	- 29 000	588 400	- 13 200	- 41 200	0	11 500	545 500	516 500	31%
Czech Republic	- 4 200	- 64 900	- 69 100	469 300	- 92 500	- 51 600	0	- 4 000	321 200	252 100	11%
Denmark ¹	0	- 51 200	- 51 200	493 300	- 223 500	0	- 15 600	1 400	255 600	204 400	11%
Estonia	0	- 42 500	- 42 500	204 000	- 37 700	- 2 800	0	- 1 800	161 700	119 200	10%
Finland	0	- 47 300	- 47 300	430 900	- 152 200	- 35 100	0	4 300	247 900	200 600	12%
France ¹	- 5 400	- 51 300	- 56 700	572 500	- 134 600	- 74 600	- 100	2 000	365 200	308 500	12%
Germany	- 3 400	- 58 300	- 61 700	677 100	- 208 700	- 118 500	0	- 5 400	344 500	282 800	12%
Greece	- 3 300	- 24 600	- 27 900	209 700	- 30 900	- 32 800	0	- 4 100	141 900	114 000	11%
Hungary	- 9 000	- 33 300	- 42 300	590 700	- 94 500	- 109 300	0	- 5 300	381 600	339 300	20%
Iceland	m	m	m	m	m	m	m	m	m	m	m
Ireland	0	- 45 900	- 45 900	885 500	- 366 900	- 35 700	- 900	- 18 600	463 400	417 500	22%
Israel	- 7 600	- 16 800	- 24 400	536 800	- 119 200	- 60 200	0	- 2 500	354 900	330 500	30%
Italy ¹	- 8 600	- 35 300	- 43 900	438 100	- 161 600	- 42 500	0	- 5 000	229 000	185 100	8%
Japan ²	- 29 600	- 59 300	- 88 900	527 300	- 77 700	- 70 300	0	- 5 800	373 500	284 600	10%
Korea	- 7 600	- 19 700	- 27 300	352 200	- 37 100	- 29 500	0	2 700	288 300	261 000	25%
Latvia	- 9 200	- 22 500	- 31 700	181 200	- 35 800	- 19 000	0	- 8 000	118 400	86 700	11%
Luxembourg ¹	0	- 85 300	- 85 300	983 600	- 344 000	- 121 100	0	- 2 600	515 900	430 600	12%
Mexico	m	m	m	m	m	m	m	m	m	m	m
Netherlands	m	m	m	m	m	m	m	m	m	m	m
New Zealand	- 18 700	- 41 800	- 60 500	446 400	- 131 400	0	0	- 2 000	313 000	252 500	13%
Norway	0	- 70 300	- 70 300	456 700	- 147 600	- 37 500	0	- 2 600	269 000	198 700	8%
Poland ¹	- 3 000	- 45 900	- 48 900	533 900	- 45 900	- 95 200	0	- 7 900	384 900	336 000	16%
Portugal	- 8 400	- 46 100	- 54 500	458 300	- 157 100	- 50 400	0	5 200	256 000	201 500	9%
Slovak Republic	- 6 500	- 37 300	- 43 800	397 800	- 63 200	- 53 300	0	400	281 700	237 900	13%
Slovenia	- 500	- 48 200	- 48 700	537 700	- 116 200	- 118 800	0	- 8 900	293 800	245 100	12%
Spain	- 10 500	- 31 500	- 42 000	339 400	- 85 000	- 21 500	0	- 14 300	218 600	176 600	11%
Sweden	m	m	m	m	m	m	m	m	m	m	m
Switzerland	- 6 600	- 71 500	- 78 100	655 300	- 129 800	- 40 800	0	8 300	493 000	414 900	14%
Turkey	- 3 100	- 8 500	- 11 600	295 400	- 54 000	- 44 300	0	4 400	201 500	189 900	31%
United Kingdom	- 39 500	- 41 100	- 80 600	466 300	- 97 400	- 52 600	- 1 000	- 3 000	312 300	231 700	11%
United States	- 35 700	- 35 000	- 70 700	904 300	- 257 500	- 69 200	0	- 11 900	565 700	495 000	18%
OECD average	- 9 200	- 43 300	- 52 500	507 700	- 132 500	- 51 900	- 600	- 3 100	319 600	267 100	14%
EU22 average	- 5 600	- 46 200	- 51 800	501 800	- 142 100	- 60 000	- 900	- 4 500	294 300	242 500	12%

Note: Values are based on the difference between men who attained a tertiary education compared with those who have attained an upper secondary education. Values have been rounded up to the nearest hundred. Direct cost to education does not include student loans.


Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2014.

2. Year of reference 2012. Students' earnings are not included in the calculation of foregone earnings.

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

StatLink  <https://doi.org/10.1787/888933802380>

A5

Table A5.1b. Private costs and benefits for a woman attaining tertiary education (2015)
As compared with a woman attaining upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%

		Direct costs	Foregone earnings	Total costs	Earnings benefits decomposition (taking into account the unemployment effect)				Unemployment benefits effect	Total benefits	Net financial returns	Internal rate of return
					Gross earnings benefits	Income tax effect	Social contribution effect	Transfers effect				
		(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)	(7)	(8)	(9)=(4)+(5)+(6)+(7)+(8)	(10)=(9)+(3)	(11)
OECD	Australia	- 31 500	- 24 300	- 55 800	410 700	- 125 300	0	- 100	- 5 900	279 400	223 600	14%
	Austria	0	- 55 600	- 55 600	395 700	- 95 600	- 75 300	0	- 2 300	222 500	166 900	9%
	Belgium	- 1 400	- 39 600	- 41 000	461 800	- 149 500	- 87 000	0	- 9 100	216 200	175 200	15%
	Canada	- 20 800	- 20 100	- 40 900	341 600	- 64 500	- 27 300	- 800	1 200	250 200	209 300	17%
	Chile	- 10 400	- 9 200	- 19 600	355 800	- 2 000	- 24 900	0	7 400	336 300	316 700	35%
	Czech Republic	- 4 200	- 47 300	- 51 500	268 300	- 50 000	- 29 500	- 4 500	- 6 300	178 000	126 500	8%
	Denmark ¹	0	- 25 300	- 25 300	311 600	- 120 600	0	- 6 300	- 5 300	179 400	154 100	18%
	Estonia	0	- 21 500	- 21 500	182 700	- 33 100	- 2 700	0	- 300	146 600	125 100	19%
	Finland	0	- 45 300	- 45 300	345 100	- 105 500	- 28 400	- 200	0	211 000	165 700	13%
	France ¹	- 5 400	- 41 500	- 46 900	356 000	- 70 200	- 49 100	- 6 200	- 4 100	226 400	179 500	13%
	Germany	- 3 400	- 46 500	- 49 900	382 700	- 88 400	- 78 300	- 1 000	- 1 900	213 100	163 200	10%
	Greece	- 3 300	- 23 700	- 27 000	172 800	- 7 300	- 26 900	0	- 5 200	133 400	106 400	12%
	Hungary	- 9 000	- 26 300	- 35 300	301 600	- 48 300	- 55 800	0	- 5 300	192 200	156 900	14%
	Iceland	m	m	m	m	m	m	m	m	m	m	m
	Ireland	0	- 34 700	- 34 700	571 600	- 160 400	- 24 400	- 600	- 4 900	381 300	346 600	29%
	Israel	- 7 600	- 7 400	- 15 000	322 700	- 42 900	- 32 200	0	3 500	251 100	236 100	35%
	Italy ¹	- 8 600	- 26 200	- 34 800	303 800	- 83 900	- 28 800	0	- 1 700	189 400	154 600	10%
	Japan ²	- 29 600	- 52 600	- 82 200	201 700	- 16 600	- 27 600	- 50 200	- 4 100	103 200	21 000	3%
	Korea	- 7 600	- 23 700	- 31 300	204 400	- 7 400	- 17 100	0	2 600	182 500	151 200	19%
	Latvia	- 9 200	- 13 100	- 22 300	148 900	- 29 200	- 15 600	0	400	104 500	82 200	13%
	Luxembourg ¹	0	- 76 300	- 76 300	709 700	- 225 100	- 88 100	0	6 400	402 900	326 600	14%
	Mexico	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	m	m	m	m	m	m	m	m	m
	New Zealand	- 18 700	- 36 200	- 54 900	355 500	- 78 200	0	- 2 100	- 8 200	267 000	212 100	15%
	Norway	0	- 44 300	- 44 300	384 700	- 92 700	- 31 500	0	- 1 500	259 000	214 700	14%
	Poland ¹	- 3 000	- 29 300	- 32 300	380 700	- 31 000	- 67 900	0	- 8 800	273 000	240 700	19%
	Portugal	- 8 400	- 34 500	- 42 900	354 200	- 108 400	- 39 000	0	4 100	210 900	168 000	11%
	Slovak Republic	- 6 500	- 21 800	- 28 300	233 400	- 34 700	- 31 700	0	- 3 400	163 600	135 300	12%
	Slovenia	- 500	- 29 700	- 30 200	421 200	- 79 200	- 93 100	0	- 13 000	235 900	205 700	15%
	Spain	- 10 500	- 23 700	- 34 200	329 800	- 68 800	- 20 900	0	- 2 300	237 800	203 600	15%
	Sweden	m	m	m	m	m	m	m	m	m	m	m
	Switzerland	- 6 600	- 70 500	- 77 100	474 900	- 67 300	- 29 700	0	3 600	381 500	304 400	14%
	Turkey	- 3 100	- 4 500	- 7 600	282 500	- 39 300	- 42 400	0	10 500	211 300	203 700	41%
	United Kingdom	- 39 500	- 33 800	- 73 300	369 500	- 71 200	- 42 300	- 12 200	- 1 300	242 500	169 200	10%
	United States	- 35 700	- 18 400	- 54 100	539 900	- 118 200	- 41 300	0	- 6 400	374 000	319 900	18%
	OECD average	- 9 200	- 32 500	- 41 700	350 800	- 74 700	- 37 400	- 2 700	- 2 000	234 000	192 300	16%
	EU22 average	- 5 600	- 34 800	- 40 400	350 100	- 83 000	- 44 200	- 1 600	- 3 200	218 100	177 700	13%

Note: Values are based on the difference between women who attained a tertiary education compared with those who have attained an upper secondary education. Values have been rounded up to the nearest hundred. Direct cost to education does not include student loans.

Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2014.

2. Year of reference 2012. Students' earnings are not included in the calculation of foregone earnings.

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.


StatLink  <https://doi.org/10.1787/888933802399>

Table A5.2a. Public costs and benefits for a man attaining tertiary education (2015)
As compared with a man attaining upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%

	Direct costs	Foregone taxes on earnings	Total costs	Earnings benefits decomposition (taking into account the unemployment effect)			Unemployment benefits effect	Total benefits	Net financial returns	Internal rate of return
				Income tax effect	Social contribution effect	Transfers effect				
	(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)	(7)	(8)=(4)+(5)+(6)+(7)	(9)=(8)+(3)	(10)
OECD										
Australia	- 29 600	- 5 300	- 34 900	171 800	0	0	2 500	174 300	139 400	11%
Austria	- 65 500	- 16 100	- 81 600	208 100	95 700	0	2 300	306 100	224 500	8%
Belgium	- 52 000	- 300	- 52 300	187 100	70 300	0	11 100	268 500	216 200	11%
Canada	- 40 700	- 3 300	- 44 000	125 300	14 900	0	7 000	147 200	103 200	8%
Chile	- 8 700	800	- 7 900	13 200	41 200	0	- 11 500	42 900	35 000	10%
Czech Republic	- 30 000	- 11 700	- 41 700	92 500	51 600	0	4 000	148 100	106 400	9%
Denmark ¹	- 80 400	- 6 600	- 87 000	223 500	0	15 600	- 1 400	237 700	150 700	7%
Estonia	- 42 700	- 5 300	- 48 000	37 700	2 800	0	1 800	42 300	- 5 700	1%
Finland	- 75 100	18 000	- 57 100	152 200	35 100	0	- 4 300	183 000	125 900	8%
France ¹	- 51 700	6 600	- 45 100	134 600	74 600	100	- 2 000	207 300	162 200	10%
Germany	- 68 700	- 22 600	- 91 300	208 700	118 500	0	5 400	332 600	241 300	9%
Greece	- 12 800	9 300	- 3 500	30 900	32 800	0	4 100	67 800	64 300	17%
Hungary	- 23 400	- 12 200	- 35 600	94 500	109 300	0	5 300	209 100	173 500	15%
Iceland	m	m	m	m	m	m	m	m	m	m
Ireland	- 43 900	12 500	- 31 400	366 900	35 700	900	18 600	422 100	390 700	21%
Israel	- 24 200	1 100	- 23 100	119 200	60 200	0	2 500	181 900	158 800	16%
Italy ¹	- 35 600	9 500	- 26 100	161 600	42 500	0	5 000	209 100	183 000	11%
Japan ²	- 23 000	- 11 200	- 34 200	77 700	70 300	0	5 800	153 800	119 600	10%
Korea	- 19 200	- 1 900	- 21 100	37 100	29 500	0	- 2 700	63 900	42 800	7%
Latvia	- 29 100	- 4 100	- 33 200	35 800	19 000	0	8 000	62 800	29 600	6%
Luxembourg ¹	- 167 900	- 9 700	- 177 600	344 000	121 100	0	2 600	467 700	290 100	7%
Mexico	m	m	m	m	m	m	m	m	m	m
Netherlands	m	m	m	m	m	m	m	m	m	m
New Zealand	- 32 000	- 2 300	- 34 300	131 400	0	0	2 000	133 400	99 100	10%
Norway	- 81 600	- 19 200	- 100 800	147 600	37 500	0	2 600	187 700	86 900	4%
Poland ¹	- 31 100	- 5 400	- 36 500	45 900	95 200	0	7 900	149 000	112 500	11%
Portugal	- 33 800	5 100	- 28 700	157 100	50 400	0	- 5 200	202 300	173 600	11%
Slovak Republic	- 52 800	- 1 200	- 54 000	63 200	53 300	0	- 400	116 100	62 100	6%
Slovenia	- 35 700	- 9 600	- 45 300	116 200	118 800	0	8 900	243 900	198 600	11%
Spain	- 35 500	10 700	- 24 800	85 000	21 500	0	14 300	120 800	96 000	9%
Sweden	m	m	m	m	m	m	m	m	m	m
Switzerland	- 96 200	- 3 000	- 99 200	129 800	40 800	0	- 8 300	162 300	63 100	4%
Turkey	- 24 600	800	- 23 800	54 000	44 300	0	- 4 400	93 900	70 100	9%
United Kingdom	- 27 900	1 500	- 26 400	97 400	52 600	1 000	3 000	154 000	127 600	16%
United States	- 48 600	- 4 900	- 53 500	257 500	69 200	0	11 900	338 600	285 100	14%
OECD average	- 45 900	- 2 600	- 48 500	132 500	51 900	600	3 100	188 100	139 600	10%
EU22 average	- 49 800	- 1 600	- 51 400	142 100	60 000	900	4 500	207 500	156 200	10%

Note: Values are based on the difference between men who attained a tertiary education compared with those who have attained an upper secondary education. Values have been rounded up to the nearest hundred. Direct cost to education does not include student loans.


Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2014.

2. Year of reference 2012. Students' earnings are not included in the calculation of foregone earnings.

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

Please refer to the *Reader's Guide* for information concerning symbols for missing data and abbreviations.

StatLink  <https://doi.org/10.1787/888933802418>

A5

Table A5.2b. Public costs and benefits for a woman attaining tertiary education (2015)
As compared with a woman attaining upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%

	Direct costs	Foregone taxes on earnings	Total costs	Earnings benefits decomposition (taking into account the unemployment effect)			Unemployment benefits effect	Total benefits	Net financial returns	Internal rate of return
				Income tax effect	Social contribution effect	Transfers effect				
Australia	- 29 600	- 500	- 30 100	125 300	0	100	5 900	131 300	101 200	12%
Austria	- 65 500	- 10 200	- 75 700	95 600	75 300	0	2 300	173 200	97 500	6%
Belgium	- 52 000	4 200	- 47 800	149 500	87 000	0	9 100	245 600	197 800	13%
Canada	- 40 700	- 800	- 41 500	64 500	27 300	800	- 1 200	91 400	49 900	7%
Chile	- 8 700	800	- 7 900	2 000	24 900	0	- 7 400	19 500	11 600	7%
Czech Republic	- 30 000	- 3 800	- 33 800	50 000	29 500	4 500	6 300	90 300	56 500	7%
Denmark ¹	- 80 400	3 300	- 77 100	120 600	0	6 300	5 300	132 200	55 100	5%
Estonia	- 42 700	- 1 500	- 44 200	33 100	2 700	0	300	36 100	- 8 100	1%
Finland	- 75 100	21 400	- 53 700	105 500	28 400	200	0	134 100	80 400	7%
France ¹	- 51 700	10 400	- 41 300	70 200	49 100	6 200	4 100	129 600	88 300	10%
Germany	- 68 700	- 15 500	- 84 200	88 400	78 300	1 000	1 900	169 600	85 400	5%
Greece	- 12 800	11 600	- 1 200	7 300	26 900	0	5 200	39 400	38 200	22%
Hungary	- 23 400	- 9 500	- 32 900	48 300	55 800	0	5 300	109 400	76 500	9%
Iceland	m	m	m	m	m	m	m	m	m	m
Ireland	- 43 900	9 400	- 34 500	160 400	24 400	600	4 900	190 300	155 800	14%
Israel	- 24 200	2 600	- 21 600	42 900	32 200	0	- 3 500	71 600	50 000	9%
Italy ¹	- 35 600	9 600	- 26 000	83 900	28 800	0	1 700	114 400	88 400	8%
Japan ²	- 23 000	700	- 22 300	16 600	27 600	50 200	4 100	98 500	76 200	13%
Korea	- 19 200	- 2 200	- 21 400	7 400	17 100	0	- 2 600	21 900	500	2%
Latvia	- 29 100	600	- 28 500	29 200	15 600	0	- 400	44 400	15 900	4%
Luxembourg ¹	- 167 900	- 10 100	- 178 000	225 100	88 100	0	- 6 400	306 800	128 800	5%
Mexico	m	m	m	m	m	m	m	m	m	m
Netherlands	m	m	m	m	m	m	m	m	m	m
New Zealand	- 32 000	300	- 31 700	78 200	0	2 100	8 200	88 500	56 800	8%
Norway	- 81 600	- 8 300	- 89 900	92 700	31 500	0	1 500	125 700	35 800	4%
Poland ¹	- 31 100	1 000	- 30 100	31 000	67 900	0	8 800	107 700	77 600	10%
Portugal	- 33 800	9 900	- 23 900	108 400	39 000	0	- 4 100	143 300	119 400	11%
Slovak Republic	- 52 800	1 400	- 51 400	34 700	31 700	0	3 400	69 800	18 400	3%
Slovenia	- 35 700	3 600	- 32 100	79 200	93 100	0	13 000	185 300	153 200	12%
Spain	- 35 500	8 600	- 26 900	68 800	20 900	0	2 300	92 000	65 100	7%
Sweden	m	m	m	m	m	m	m	m	m	m
Switzerland	- 96 200	- 5 000	- 101 200	67 300	29 700	0	- 3 600	93 400	- 7 800	2%
Turkey	- 24 600	1 400	- 23 200	39 300	42 400	0	- 10 500	71 200	48 000	8%
United Kingdom	- 27 900	5 400	- 22 500	71 200	42 300	12 200	1 300	127 000	104 500	21%
United States	- 48 600	- 900	- 49 500	118 200	41 300	0	6 400	165 900	116 400	10%
OECD average	- 45 900	1 200	- 44 700	74 700	37 400	2 700	2 000	116 800	72 100	8%
EU22 average	- 49 800	2 500	- 47 300	83 000	44 200	1 600	3 200	132 000	84 700	9%

Note: Values are based on the difference between women who attained a tertiary education compared with those who have attained an upper secondary education. Values have been rounded up to the nearest hundred. Direct cost to education does not include student loans.

Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2014.

2. Year of reference 2012. Students' earnings are not included in the calculation of foregone earnings.

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

Please refer to the *Reader's Guide* for information concerning symbols for missing data and abbreviations.


StatLink  <https://doi.org/10.1787/888933802437>

Table A5.3a. Private/public costs and benefits for a man attaining tertiary education, by level of tertiary education (2015)

As compared with a man attaining upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%

	Short-cycle tertiary (ISCED 5)						Bachelor's, master's and doctoral or equivalent level (ISCED 6 to 8)					
	Private			Public			Private			Public		
	Total costs	Total benefits	Net financial returns	Total costs	Total benefits	Net financial returns	Total costs	Total benefits	Net financial returns	Total costs	Total benefits	Net financial returns
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD												
Australia	- 38 800	155 600	116 800	- 15 200	84 100	68 900	- 80 400	361 400	281 000	- 39 600	207 300	167 700
Austria	- 53 000	236 800	183 800	- 68 200	207 300	139 100	- 67 700	555 300	487 600	- 88 200	438 800	350 600
Belgium	m	m	m	m	m	m	- 51 000	221 600	170 600	- 53 400	269 400	216 000
Canada	- 46 700	186 700	140 000	- 29 200	86 500	57 300	- 53 300	406 100	352 800	- 49 400	201 900	152 500
Chile	- 19 700	193 800	174 100	- 3 000	9 600	6 600	- 49 000	689 800	640 800	- 15 500	62 700	47 200
Czech Republic	m	m	m	m	m	m	- 69 000	334 300	265 300	- 41 500	154 000	112 500
Denmark ¹	- 23 500	127 400	103 900	- 40 100	103 200	63 100	- 54 500	289 200	234 700	- 92 700	276 200	183 500
Estonia	a	a	a	a	a	a	- 42 500	193 800	151 300	- 48 000	50 100	2 100
Finland	a	a	a	a	a	a	- 47 300	295 700	248 400	- 57 100	218 100	161 000
France ¹	- 28 000	186 200	158 200	- 22 100	99 700	77 600	- 64 500	496 800	432 300	- 51 400	289 300	237 900
Germany	m	m	m	m	m	m	- 61 900	361 900	300 000	- 91 700	349 600	257 900
Greece	a	a	a	a	a	a	- 27 900	142 600	114 700	- 3 500	65 100	61 600
Hungary	- 25 200	119 600	94 400	- 15 900	68 900	53 000	- 43 100	387 200	344 100	- 36 600	212 200	175 600
Iceland	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	- 28 600	240 900	212 300	- 19 500	187 500	168 000	- 50 500	547 000	496 500	- 34 600	514 200	479 600
Israel	- 8 800	134 500	125 700	- 6 200	37 100	30 900	- 31 000	458 600	427 600	- 32 100	261 600	229 500
Italy ¹	m	m	m	m	m	m	- 43 900	229 000	185 100	- 26 100	209 100	183 000
Japan	m	m	m	m	m	m	m	m	m	m	m	m
Korea	- 16 200	196 600	180 400	- 7 800	34 600	26 800	- 30 700	310 100	279 400	- 26 000	71 800	45 800
Latvia	m	m	m	m	m	m	- 34 500	125 500	91 000	- 36 600	64 100	27 500
Luxembourg ¹	m	m	m	m	m	m	m	m	m	m	m	m
Mexico	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	m	m	m	m	m	m	m	m	m	m	m	m
New Zealand	m	m	m	m	m	m	- 65 500	338 600	273 100	- 40 700	145 600	104 900
Norway	- 39 300	126 900	87 600	- 40 400	91 700	51 300	- 71 600	348 600	277 000	- 103 500	243 600	140 100
Poland ¹	m	m	m	m	m	m	- 48 900	402 100	353 200	- 36 400	155 100	118 700
Portugal	m	m	m	m	m	m	- 54 500	268 400	213 900	- 28 700	213 900	185 200
Slovak Republic	m	m	m	m	m	m	- 44 600	284 300	239 700	- 55 400	116 900	61 500
Slovenia	m	m	m	m	m	m	m	m	m	m	m	m
Spain	m	m	m	m	m	m	m	m	m	m	m	m
Sweden	m	m	m	m	m	m	m	m	m	m	m	m
Switzerland	m	m	m	m	m	m	- 79 000	485 700	406 700	- 100 500	159 400	58 900
Turkey	m	m	m	m	m	m	m	m	m	m	m	m
United Kingdom	- 41 600	144 300	102 700	m	m	m	- 84 000	361 400	277 400	- 29 000	183 900	154 900
United States	- 39 800	158 500	118 700	- 30 100	82 800	52 700	- 88 500	673 900	585 400	- 67 000	412 100	345 100
OECD average	m	m	m	m	m	m	- 55 400	368 000	312 600	- 49 400	213 300	163 900
EU22 average	m	m	m	m	m	m	- 52 400	323 300	270 900	- 47 700	222 400	174 700


Note: Values are based on the difference between men who attained a specific level of tertiary education compared with those who have attained an upper secondary education. Values have been rounded up to the nearest hundred. Direct cost to education does not include student loans.

Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2014.

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

Please refer to the *Reader's Guide* for information concerning symbols for missing data and abbreviations.

StatLink  <https://doi.org/10.1787/888933802456>

A5

Table A5.3b. **Private/public costs and benefits for a woman attaining tertiary education, by level of tertiary education (2015)**

As compared with a woman attaining upper secondary education, in equivalent USD converted using PPPs for GDP, future costs and benefits are discounted at a rate of 2%

		Short-cycle tertiary (ISCED 5)						Bachelor's, master's and doctoral or equivalent level (ISCED 6 to 8)					
		Private			Public			Private			Public		
		Total costs	Total benefits	Net financial returns	Total costs	Total benefits	Net financial returns	Total costs	Total benefits	Net financial returns	Total costs	Total benefits	Net financial returns
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD	Australia	- 30 200	148 700	118 500	- 13 000	60 900	47 900	- 59 900	335 500	275 600	- 34 300	160 800	126 500
	Austria	- 47 000	161 100	114 100	- 63 200	120 300	57 100	- 60 000	292 000	232 000	- 81 900	231 300	149 400
	Belgium	m	m	m	m	m	m	- 41 700	213 200	171 500	- 48 900	241 900	193 000
	Canada	- 37 400	166 300	128 900	- 27 600	55 700	28 100	- 37 300	323 800	286 500	- 46 600	126 800	80 200
	Chile	- 12 500	126 100	113 600	- 3 000	6 300	3 300	- 33 800	448 700	414 900	- 15 400	31 500	16 100
	Czech Republic	m	m	m	m	m	m	- 51 400	190 800	139 400	- 33 600	95 900	62 300
	Denmark ¹	- 11 600	123 900	112 300	- 35 500	63 200	27 700	- 26 900	187 600	160 700	- 82 100	146 200	64 100
	Estonia	a	a	a	a	a	a	- 21 500	172 200	150 700	- 44 200	42 300	- 1 900
	Finland	a	a	a	a	a	a	- 45 300	255 200	209 900	- 53 700	171 200	117 500
	France ¹	- 22 800	180 900	158 100	- 20 100	110 000	89 900	- 53 600	277 800	224 200	- 47 200	153 700	106 500
	Germany	m	m	m	m	m	m	- 50 100	215 800	165 700	- 84 500	172 300	87 800
	Greece	a	a	a	a	a	a	- 27 000	126 100	99 100	- 1 200	36 800	35 600
	Hungary	- 20 500	64 200	43 700	- 14 100	38 200	24 100	- 36 000	196 400	160 400	- 33 800	111 800	78 000
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	- 21 600	248 900	227 300	- 21 400	85 500	64 100	- 38 200	441 900	403 700	- 37 900	243 800	205 900
	Israel	- 4 400	93 400	89 000	- 5 500	10 100	4 600	- 20 300	320 600	300 300	- 30 300	102 800	72 500
	Italy ¹	m	m	m	m	m	m	- 34 800	189 500	154 700	- 26 000	114 400	88 400
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	- 18 800	119 300	100 500	- 8 000	10 700	2 700	- 35 200	210 800	175 600	- 26 400	28 900	2 500
	Latvia	m	m	m	m	m	m	- 24 100	109 200	85 100	- 31 400	46 500	15 100
	Luxembourg ¹	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m	m	m
	Netherlands	m	m	m	m	m	m	m	m	m	m	m	m
	New Zealand	m	m	m	m	m	m	- 59 400	281 100	221 700	- 37 800	94 500	56 700
	Norway	- 25 400	128 200	102 800	- 34 500	50 100	15 600	- 45 100	307 000	261 900	- 92 400	152 300	59 900
	Poland ¹	m	m	m	m	m	m	- 32 300	278 800	246 500	- 30 000	109 700	79 700
	Portugal	m	m	m	m	m	m	- 42 900	221 300	178 400	- 23 900	151 700	127 800
	Slovak Republic	m	m	m	m	m	m	- 28 800	166 400	137 600	- 52 700	70 800	18 100
	Slovenia	m	m	m	m	m	m	m	m	m	m	m	m
	Spain	m	m	m	m	m	m	m	m	m	m	m	m
	Sweden	m	m	m	m	m	m	m	m	m	m	m	m
	Switzerland	m	m	m	m	m	m	- 78 000	385 000	307 000	- 102 600	94 400	- 8 200
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	- 36 500	93 000	56 500	m	m	m	- 76 500	288 900	212 400	- 25 000	148 300	123 300
	United States	- 30 400	150 000	119 600	- 27 800	57 000	29 200	- 67 700	436 100	368 400	- 62 000	204 200	142 200
	OECD average	m	m	m	m	m	m	- 43 400	264 300	220 900	- 45 600	126 300	80 700
	EU22 average	m	m	m	m	m	m	- 40 700	224 900	184 200	- 43 400	134 600	91 200


Note: Values are based on the difference between women who attained a specific level of tertiary education compared with those who have attained an upper secondary education. Values have been rounded up to the nearest hundred. Direct cost to education does not include student loans.

Due to changes in the methodology, values in this edition of *Education at a Glance* cannot be compared to results from previous editions. See *Definitions* and *Methodology* sections for more information.

1. Year of reference 2014.

Source: OECD (2018). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

Please refer to the *Reader's Guide* for information concerning symbols for missing data and abbreviations.

StatLink  <https://doi.org/10.1787/888933802475>



From:
Education at a Glance 2018
OECD Indicators

Access the complete publication at:

<https://doi.org/10.1787/eag-2018-en>

Please cite this chapter as:

OECD (2018), “Indicator A5 What are the financial incentives to invest in education?”, in *Education at a Glance 2018: OECD Indicators*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/eag-2018-11-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.