# 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 a large proportion of tertiary-educated individuals through, for instance, greater tax revenues and social contributions.

- Adults completing tertiary education benefit from substantial returns on investment: they are more likely to be employed and earn more than adults without tertiary education.

- Gender matters: on average across OECD countries, the private net financial returns for a woman with tertiary education are about two-thirds of those for a man with a similar level of education.

Figure A7.1. Private net financial returns for a man or a woman attaining tertiary education (2013)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP
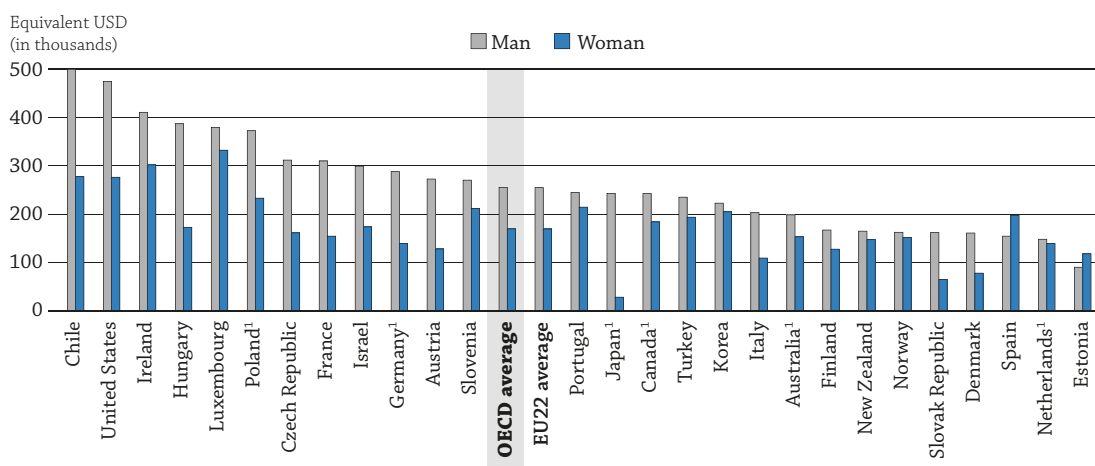
1. Reference year differs from 2013. Refer to the source table for more details.
Countries are ranked in descending order of private net returns for a man.
Source: OECD (2017), Tables A7.1a and A7.1b. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
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■ Context

Investing time and money in education is an investment in human capital. For adults, the labour market outcomes of higher educational attainment outweigh the initial cost of pursuing education. Better chances of employment (see Indicator A5) and higher earnings (see Indicator A6) 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 Indicators A9 and C3).

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. In countries with rigid labour laws and structures that tend to limit differences in wages across the board, this signal will be weaker.

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 social participation and better health and well-being (see Indicator A8).

■ *Other findings*

■ In all OECD countries with data, the main cost for tertiary education is not direct costs such as tuition fees or living expenses but foregone earnings of individuals while they are in school.

■ Across OECD countries on average, a man invests around USD 60 900 to earn a tertiary degree while a woman invests around USD 55 000. In Japan and the Netherlands, average investment exceeds USD 100 000 for both genders when direct and indirect costs are taken into account.

■ The gender gap in private net financial returns to tertiary education is the largest in Japan, where the returns for a man are nine times higher than the returns for a woman.

■ 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 up until only a theoretical age of retirement of 64 years old, and therefore does not take into account pensions. Values are presented separately for men and women to account for gender differences in earnings and unemployment rates.

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

A7

Analysis

Financial incentives for individuals to invest in tertiary education

Figure A7.1 shows that investing in education pays off in the long run for both men and women. Even if it may seem costly for individuals at the time of making the choice to pursue further education, the gains they will make 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 A7.1, Tables A7.1a and b, and Tables A7.4a and b, available on line).

Across OECD countries, the average private financial returns from tertiary education for a man are USD 252 100. Although young women tend to complete higher education more often than young men (see Indicator A1), women have lower relative net financial returns to investing in tertiary education than men. This is the case in all OECD countries with available data, with the exception of Estonia and Spain. For a woman, on average, net financial returns for tertiary education are USD 167 400, representing only two-thirds of those for a man (Figure A7.1).

Another way to analyse returns to education is through the internal rate of return, which 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 for men is 13%, and 11% for women (Tables A7.1a and b).

The lower returns for women can be attributed to a variety of factors, such as women's lower earnings, higher unemployment rates, a higher share of part-time work on average and differences in the choice of field of study between men and women. Tax systems can discourage married women from seeking full-time employment, or if there are not enough resources for early childhood education and care, women might stay at home taking care of small children. Japan has the largest gender difference, with net financial returns for a tertiary-educated man nine times higher than for a woman with a similar level of education; in this country, the tax system and the labour market structure tend to drive down women's returns from tertiary education. Private net financial returns may increase for Japanese women in the future, however, as the current government aims to promote women's higher labour market participation by introducing a number of specific policy measures (Cabinet Secretariat, 2016) (Tables A7.1a 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).
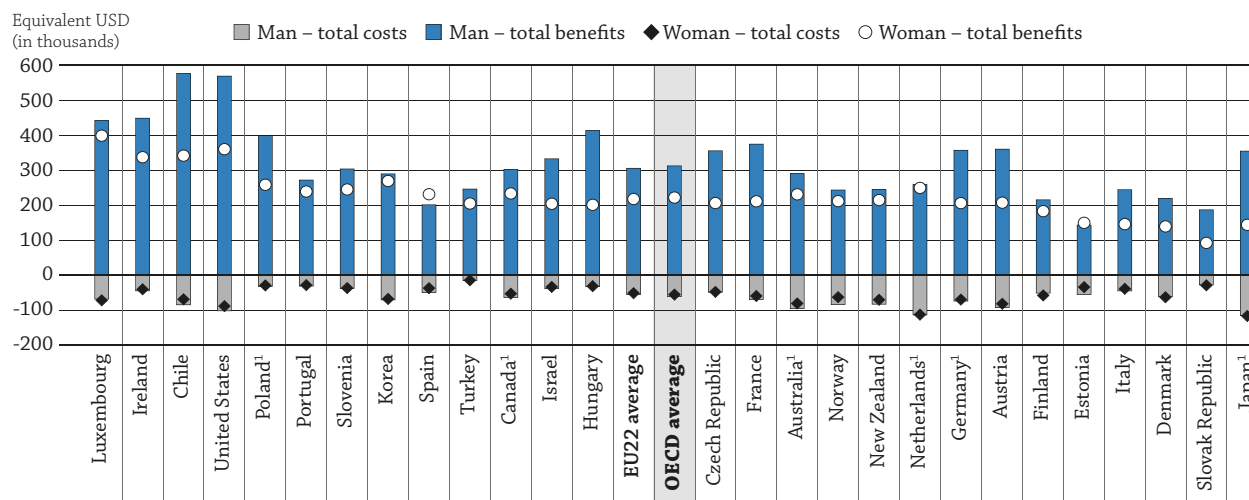
Total private costs – composed of direct costs and foregone earnings – generally rise with the level of education. The direct costs for a man or a women with tertiary education are, on average across OECD countries, about USD 9 800. The main costs are the foregone earnings, however. These vary substantially across countries, depending on the length of education, earnings levels and the difference in earnings across levels of educational attainment. Foregone earnings for a man while attaining tertiary education vary from USD 10 900 in Turkey to more than USD 100 000 in the Netherlands. When direct costs and foregone earnings are combined, Japan has the highest total private costs. A man or a woman attaining tertiary education in Japan can expect total costs to be more than seven times higher than those in Turkey (Tables A7.1a and b).

Figure A7.2 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 313 000 while the total benefit for a tertiary-educated woman is USD 222 400. This means that, over a career of 40 years, a tertiary-educated man will get about USD 2 265 more per year in total benefits than a woman with the same level of education. This is mainly due to gender gaps in earnings (see Indicator A6), but is also related to higher inactivity and unemployment rates for women (see Indicator A5) (Tables A7.1a 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. Higher income taxes and social contributions and lower social transfers linked to higher earnings can discourage investing in further education by creating a wedge between the level of gross earnings needed to recover the cost of education and the final net earnings perceived by the individual (Brys and Torres, 2013). For instance, a man who chooses to invest in tertiary education will pay, on average, about 40% of his additional income associated with tertiary education in taxes and social contributions.

Figure A7.2. Private costs and benefits of education for a man or a woman attaining tertiary education (2013)

In equivalent USD converted using PPPs for GDP

1. Reference year differs from 2013. Refer to the source table for more details.
Countries are ranked in descending order of net financial private returns for a woman.
Source: OECD (2017), Tables A7.1a and A7.1b. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
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In Chile, Estonia and Korea, income taxes and social contributions amount to less than a quarter of the gross earning benefits, while in Denmark, Ireland and the Netherlands, 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 Ireland and Israel, the income tax and social contributions relative to the gross earnings for a tertiary-educated woman are about 10 percentage points lower than for a tertiary-educated man (Tables A7.1a and b).

Financial incentives for governments to invest in tertiary education

Governments are major investors in education (see Indicator B3). From a budgetary point of view, it is important to analyse if these investment 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 A6), investments in education generate higher public returns, because tertiary-educated adults pay higher income taxes and social contributions and require fewer social transfers. Across OECD countries, on average, the public net financial returns are about USD 154 000 for a man who has completed tertiary education (Table A7.2a).

Comparison of Figures A7.2 and A7.3 shows that 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 Luxembourg, Ireland and Portugal – countries with very large net financial private and public returns. Net financial private and public returns are lowest in Denmark, Estonia and the Slovak Republic (Figures A7.2 and A7.3).

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. 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 B5). Countries with high direct costs, such as Austria, Denmark, Germany, Luxembourg, Norway and Switzerland, are also the countries with the largest total public costs (more than USD 90 000). In contrast, the Czech Republic has the lowest total public costs (USD 11 000) of all OECD countries. This is mostly because adults with upper secondary education who enter

A7

the labour market receive more public benefits than they pay taxes, contributing to lower the foregone taxes on earnings for adults who complete tertiary education. On average across OECD countries, the total public cost for a man to attain tertiary education is USD 54 900 and USD 51 800 for a woman (Tables A7.2a 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 208 900 for a man and USD 135 200 for a woman with tertiary education (Table A7.2a and b).

Figure A7.3. **Public costs and benefits of education for a man or a woman attaining tertiary education (2013)**
In equivalent USD converted using PPPs for GDP
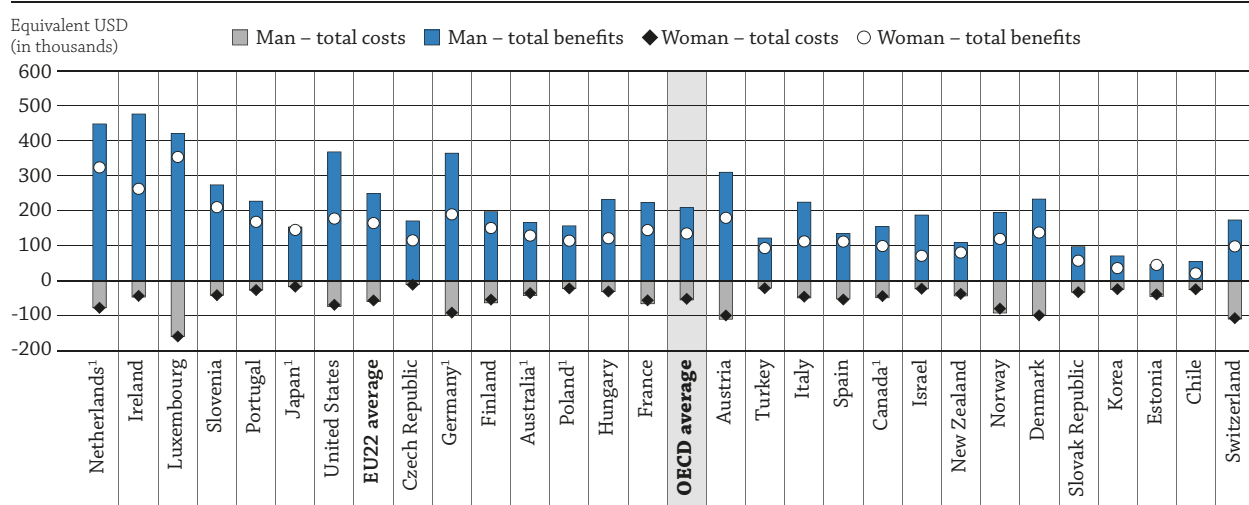
1. Reference year differs from 2013. Refer to the source table for more details.
Countries are ranked in descending order of net financial public returns for a woman.
Source: OECD (2017), Tables A7.2a and A7.2b. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
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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 50% larger than the total public benefits for a tertiary-educated woman. Across OECD countries, Ireland has the largest total public benefits of tertiary education for a man (USD 476 800) and Luxembourg has the largest total public benefits for a woman (USD 353 900). Estonia has the lowest total public benefits of tertiary education for a man (USD 46 100) and Chile has the lowest total public benefits of tertiary education for a woman (USD 21 000) (Tables A7.2a and b).

The internal rate of return to governments is also higher for a man (10% for tertiary and 9% for upper secondary) than for a woman with similar levels of education (8% for both tertiary and upper secondary) (Tables A7.2a and b, and Tables A7.5a and b, available on line).

On average, the total public benefits (USD 208 900) for a tertiary-educated man can be broken down into income tax effect (USD 132 100), social contribution effect (USD 48 700), transfers effect (USD 400) and unemployment benefits effect (USD 27 700). For a tertiary-educated woman, the total public benefits are lower (USD 135 200) and can also be broken down into USD 75 600 in income tax effect, USD 33 300 in social contribution effect, USD 3 700 in transfers effect and USD 22 600 in unemployment benefits effect (Tables A7.2a and b).

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

A7

marginal tax rates. The tax incentives for housing are particularly large in the Czech Republic, Denmark, Finland, the Netherlands, Norway and the United States (Andrews, Caldera Sánchez and Johansson, 2011).

Private and public costs and benefits by level of tertiary education

A new development in this edition of Indicator A7 is the disaggregation of the financial returns 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.

On average, for a man, the private net financial returns from achieving a bachelor's, master's, doctoral or equivalent level (USD 316 700) are greater than for all tertiary education (USD 252 100) when both are compared to a man attaining upper secondary education. The same pattern is true for the private net financial returns for a woman (USD 206 400 for bachelor's, master's and doctoral or equivalent level compared to USD 167 400 for all tertiary). For short-cycle tertiary there are insufficient countries with available data to compute the OECD average, but the general trend shows that the private net financial returns are lower than for all tertiary education. Therefore, financial returns to tertiary education will under-represent the value of investing in bachelor's, master's and doctoral degrees in countries with a larger share of tertiary-educated adults with short-cycle tertiary, than in countries with a smaller share of adults with short-cycle tertiary (Tables A7.1b and A7.3b).

Figure A7.4 shows that the private total costs for a woman holding a bachelor's, master's, doctoral or equivalent degree are higher than the private total costs for short-cycle tertiary education. However, the total benefits for bachelor's, master's and doctoral or equivalent degree largely offsets the additional costs, resulting in higher private net financial returns from bachelor's, master's, doctoral or equivalent degree. The difference in the private net financial returns between these two categories can be large in some countries. In Chile and the United States the difference for a woman is largest: the private net financial returns from short-cycle tertiary are less than USD 95 000 and over USD 345 000 for bachelor's, master's, doctoral or equivalent level. In contrast, in Denmark, the difference is smallest: the private net financial returns from short-cycle tertiary are USD 64 600 and USD 94 300 for bachelor's, master's, doctoral or equivalent level. This can be explained by a more even net earnings distribution across levels of educational attainment in Denmark (see Indicator A6) (Figure A7.4).

Figure A7.4. 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 (2013)

In equivalent USD converted using PPPs for GDP
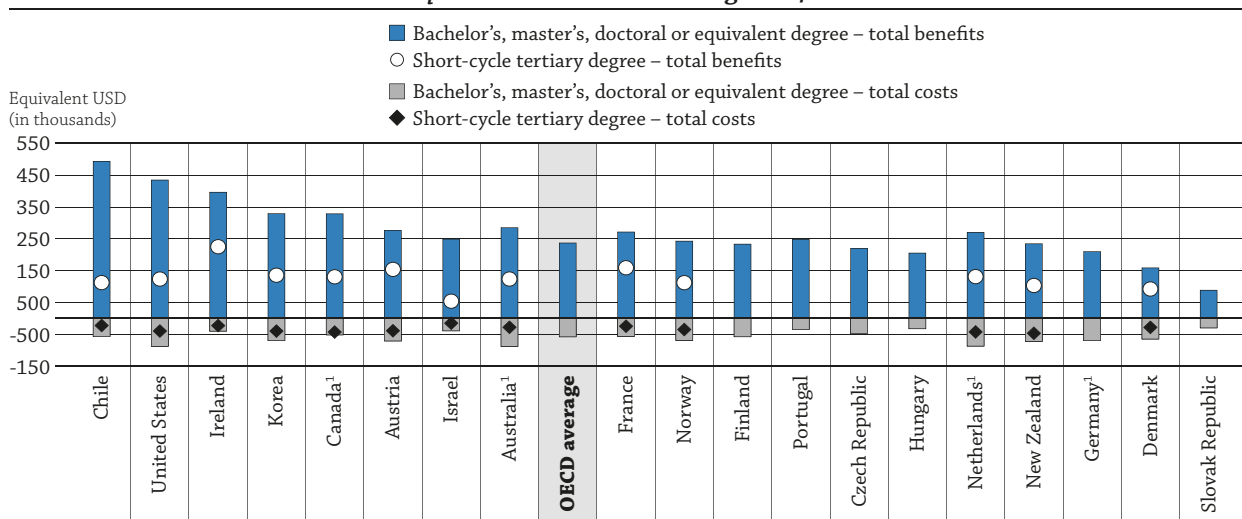
Note: Short-cycle tertiary degree corresponds to ISCED level 5 and bachelor's, master's, doctoral or equivalent degrees correspond to ISCED levels 6, 7 and 8.
1. Year of reference differs from 2013. Refer to the source table for more details.
Countries are ranked in descending order of net financial private returns for a woman with a bachelor's, master's or equivalent degree.
Source: OECD (2017), Table A7.3b. See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
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A7

Box A7.1. Foregone earnings and students working while studying

In addition to being composed of direct costs such as tuition fees or living expenses, a large share of the cost of tertiary education is made up of the foregone earnings: what individuals could have earned if they had entered the labour market instead of pursuing a degree. The net financial returns presented in the tables and figures of this indicator assume that students have no earnings while studying, which means that to calculate the foregone earnings associated with gaining a tertiary education, the average earnings of individuals with an upper secondary education are used.

In many countries, however, it is very common for students to work while attending a tertiary programme. In Finland, Norway and Turkey, over 80% of 15-24 year-old tertiary students have earnings from work (see Indicator A6). In these cases, the foregone earnings of education do not represent what an individual could have earned in the labour market, but instead the difference between what they could have earned in the labour market and what they are able to earn as tertiary students. Figure A7.a shows the increase in the net present value for a man when taking into account the fact that students can work while in education.

It is clear that by working while studying, students are able to considerably reduce the foregone earnings, which then increases considerably the net financial returns to investing in it. The change in the net present value varies across countries, depending on the share of tertiary students who work and on the average earnings they receive. In about half of countries with data, the net present value increases by over 10%.

It is important to note that by overestimating the cost of education, the assumption that students have no earnings leads to an underestimation of the net financial returns presented in the rest of the tables and figures of this indicator. Therefore, given that the results presented are already overwhelmingly positive, assuming students can have earnings while in education only reinforces the message that investing in education pays off.

Figure A7.a. Change in private net financial returns and foregone earnings for a man attaining tertiary education when student earnings are taken into account (2013)

As compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP
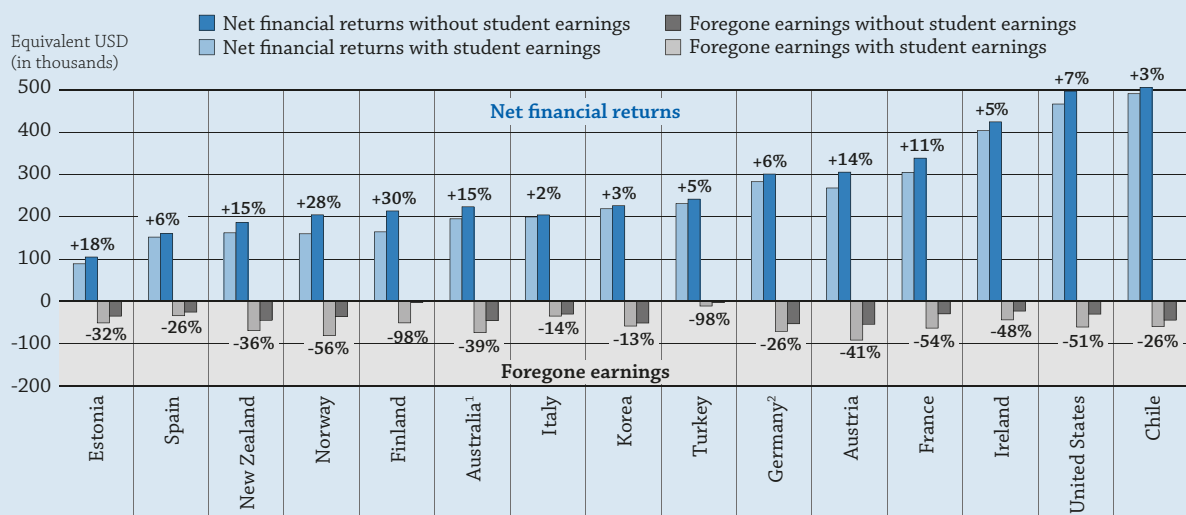
How to read this figure

In Estonia, the inclusion of student earnings in the model decreases the foregone earnings to tertiary education by 32% (from USD 50 900 to USD 34 700) and increases the net present value by 18% (from USD 89 300 to USD 105 500).

1. Year of reference 2012.
2. Year of reference 2014.
Countries are ranked in ascending order of net private returns with student earnings.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
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A7

Box A7.2. **The effect of the discount rate on the net financial returns to education**

Investment in education is costly in the short term but accrues benefits in the long term, in the form of better labour market prospects throughout an individual's working life. One way to analyse the returns on this investment is through its net present value (NPV) – a cost-benefit analysis that converts future expected flows into a present value by using a discount rate.

The choice of the discount rate depends on the estimation of how risky the investment is deemed to be. Higher discount rates mean a higher value is put on money today as opposed to money tomorrow, and are used when the flows in the future are considered less certain. The choice of the discount rate makes a considerable difference when analysing investments with long-term effects, as is the case with investment in education.

The NPV 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 therefore a higher discount rate should be used. For example, some OECD countries have performed similar cost-benefit analyses to assess investment in education using higher discount rates: Sweden and the United Kingdom have used 3.5%, and Ireland and the Netherlands have used 5%.

Table A7.a. **Net financial returns for a man attaining tertiary education, by discount rate (2013)**
As compared with a man attaining upper secondary education,
in equivalent USD converted using PPPs for GDP

	Discount rate		
	2%	3.5%	5%
Australia[1]	196 000	107 200	51 900
Austria	269 100	151 300	79 500
Canada	239 300	143 900	84 700
Chile	492 700	311 200	197 400
Czech Republic	307 700	206 700	140 800
Denmark	159 000	91 700	49 200
Estonia	89 300	52 600	28 600
Finland	165 100	102 300	62 000
France	305 900	185 300	110 800
Germany[2]	284 000	180 800	114 700
Hungary	381 800	264 100	187 000
Ireland	405 100	272 600	187 700
Israel	295 400	200 500	138 800
Italy	200 400	121 100	71 900
Japan[1]	239 900	134 700	68 700
Korea	219 900	132 100	77 200
Latvia[2]	77 700	49 100	30 200
Luxembourg	374 500	243 300	158 900
Netherlands[2]	146 300	74 500	29 500
New Zealand	162 800	94 800	51 300
Norway	160 500	81 600	32 900
Poland[1]	367 600	246 200	168 500
Portugal	241 600	155 900	102 000
Slovak Republic	160 000	104 500	68 800
Slovenia	266 800	172 300	112 800
Spain	152 600	87 500	47 600
Turkey	232 100	153 400	104 100
United States	468 200	303 200	197 300
OECD average	252 200	158 000	98 400
EU22 average	251 600	159 600	101 200

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 2012.
2. Year of reference 2014.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
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Table A7.a 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 3.5% reduces the NPV by over 30% in all countries with data. If the discount rate of 5% is used, the NPV falls by over 50% in all countries and in the Netherlands and Norway the decrease is the largest, at 80%. Although the returns remain positive in all countries even when using a discount rate of 5%, these comparisons highlight the sensitivity of the NPV results to changes in the discount rate.

Another way to analyse this sensitivity is by examining the internal rate of return, which corresponds to the discount rate at which the investment in education would break even. In other words, as long as there is reason to believe the discount rate is below the internal rate of return, the returns to investing in education are expected to be positive.

Definitions

Adults refer to 15-64 year-olds.

Direct costs are the direct expenditure on education per student during the time spent in school.

- **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.

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 instead of choosing to pursue further studies.

Foregone taxes on earnings are the 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 age of retirement of 64 years old. 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):

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

Diagram 1. **Financial returns on investment in education over a life-time for a representative individual**
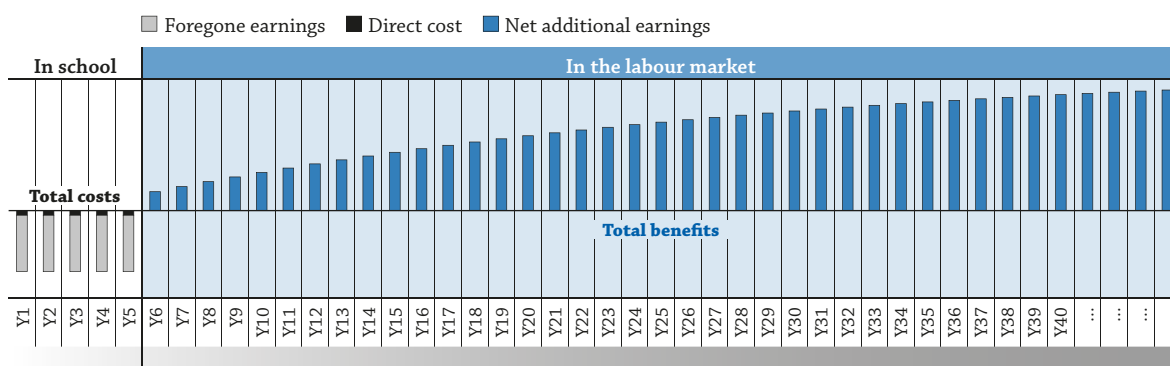
In calculating the returns to education, the approach taken here is the net present value of the investment. The net present value expresses in present value cash transfers happening at different times, to allow direct comparisons of costs and benefits. In this framework, costs and benefits during a 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).

To set a value for the discount rate, long-term government bonds have been used as a benchmark. Across OECD countries, the average long-term interest rate was approximately 4.12% in 2012, which leads to an average real interest on government bonds of approximately 2%. The 2% real discount rate used in this indicator reflects the fact that calculations are made in constant prices (OECD, 2016a; OECD, 2016b).

The choice of discount 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 (see Box A7.2). 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 net present value equivalent USD using purchasing power parities (PPP).

Changes in the methodology between *Education at a Glance 2017* and *2016*

In the current edition, the counterfactual for tertiary education is upper secondary (ISCED 3), while it was upper secondary or post-secondary non-tertiary (ISCED 3-4) in the previous edition. Similarly, the group compared to below upper secondary (ISCED 0 to 2) is now upper secondary (ISCED 3), while it was upper secondary or post-secondary non-tertiary (ISCED 3-4) in *Education at a Glance 2016*. Finally, earnings of non-students are now used instead of the minimum wage to calculate the foregone earnings.

Please see the *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications* (OECD, 2017) for more information and Annex 3 for country-specific notes (www.oecd.org/education/education-at-a-glance-19991487.htm).

Source

The source for the direct costs of education is the UOE data collection on finance (year of reference 2013 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.

A7

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 2016* (OECD, 2016c).

Employee social contributions are computed using the OECD *Taxing Wages* model's scenario of a single worker aged 40 with no children. For country-specific details on employee social contributions in this model, see *Taxing Wages 2016* (OECD, 2016c).

Social transfers and unemployment benefits are computed using the OECD Tax-Benefit model, assuming a single worker aged 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", *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 investment in OECD countries", *OECD Taxation Working Papers,* No. 16, OECD Publishing, Paris, http://dx.doi.org/10.1787/5k425747xbr6-en.

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

OECD (2017), *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264279889-en.

OECD (2016a), "Exchange rates (USD monthly averages)", *Monthly Monetary and Financial Statistics* (MEI) (database), http://stats.oecd.org/Index.aspx?QueryId=169.

OECD (2016b), "Consumer prices – Annual inflation", *Consumer Prices* (database), http://stats.oecd.org/index.aspx?queryid=22519.

OECD (2016c), *Taxing Wages 2016*, OECD Publishing, Paris, http://dx.doi.org/10.1787/tax_wages-2016-en.

Indicator A7 Tables

StatLink 🔗 http://dx.doi.org/10.1787/888933559883

Table A7.1a	**Private costs and benefits for a man attaining tertiary education (2013)**
Table A7.1b	**Private costs and benefits for a woman attaining tertiary education (2013)**
Table A7.2a	**Public costs and benefits for a man attaining tertiary education (2013)**
Table A7.2b	**Public costs and benefits for a woman attaining tertiary education (2013)**
Table A7.3a	**Private/public costs and benefits for a man attaining tertiary education, by level of tertiary education (2013)**
Table A7.3b	**Private/public costs and benefits for a woman attaining tertiary education, by level of tertiary education (2013)**
Table A7.a	**Net financial returns for a man attaining tertiary education, by discount rate (2013)**
WEB Table A7.4a	**Private costs and benefits for a man attaining upper secondary education (2013)**
WEB Table A7.4b	**Private costs and benefits for a woman attaining upper secondary education (2013)**
WEB Table A7.5a	**Public costs and benefits for a man attaining upper secondary education (2013)**
WEB Table A7.5b	**Public costs and benefits for a woman attaining upper secondary education (2013)**

Cut-off date for the data: 19 July 2017. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en.

Table A7.1a. **Private costs and benefits for a man attaining tertiary education (2013)**
As compared with a man attaining upper secondary education, in equivalent USD converted using PPPs for GDP

| | 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)
Australia[1]	- 21 200	- 73 900	**- 95 100**	431 400	- 156 100	0	0	15 800	**291 100**	**196 000**	8%
Austria	0	- 91 700	**- 91 700**	621 000	- 201 500	- 83 500	0	24 800	**360 800**	**269 100**	8%
Belgium	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Canada[2]	- 18 300	- 44 700	**- 63 000**	405 800	- 122 700	- 9 500	0	28 700	**302 300**	**239 300**	10%
Chile	- 24 800	- 59 400	**- 84 200**	598 300	- 17 200	- 40 900	0	36 700	**576 900**	**492 700**	13%
Czech Republic	- 3 900	- 44 500	**- 48 400**	483 800	- 97 200	- 53 200	0	22 700	**356 100**	**307 700**	17%
Denmark	0	- 61 100	**- 61 100**	432 300	- 211 600	0	- 11 500	10 900	**220 100**	**159 000**	8%
Estonia	- 3 500	- 50 900	**- 54 400**	155 600	- 32 000	- 3 100	0	23 200	**143 700**	**89 300**	8%
Finland	0	- 50 800	**- 50 800**	353 700	- 138 000	- 27 500	0	27 700	**215 900**	**165 100**	11%
France	- 5 900	- 63 300	**- 69 200**	526 000	- 132 100	- 67 900	- 100	49 200	**375 100**	**305 900**	11%
Germany[3]	- 2 600	- 71 000	**- 73 600**	653 000	- 216 300	- 110 700	0	31 600	**357 600**	**284 000**	12%
Greece	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Hungary	- 11 100	- 20 900	**- 32 000**	563 800	- 90 200	- 104 300	0	44 500	**413 800**	**381 800**	24%
Iceland	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Ireland	- 500	- 43 700	**- 44 200**	697 400	- 322 800	- 28 200	- 1 200	104 100	**449 300**	**405 100**	21%
Israel	- 11 400	- 26 400	**- 37 800**	476 500	- 113 400	- 57 100	0	27 200	**333 200**	**295 400**	19%
Italy	- 9 600	- 34 800	**- 44 400**	417 500	- 158 400	- 40 600	0	26 300	**244 800**	**200 400**	11%
Japan[1]	- 44 700	- 70 600	**- 115 300**	458 400	- 72 700	- 60 700	0	30 200	**355 200**	**239 900**	8%
Korea	- 11 800	- 58 400	**- 70 200**	344 200	- 40 500	- 28 300	0	14 700	**290 100**	**219 900**	10%
Latvia[3]	- 7 000	- 23 600	**- 30 600**	130 900	- 28 100	- 13 700	0	19 200	**108 300**	**77 700**	10%
Luxembourg	0	- 67 900	**- 67 900**	817 300	- 301 400	- 101 700	0	28 200	**442 400**	**374 500**	14%
Mexico	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Netherlands[3]	- 6 900	- 106 300	**- 113 200**	621 500	- 277 100	- 115 000	0	30 100	**259 500**	**146 300**	7%
New Zealand	- 13 200	- 69 300	**- 82 500**	344 800	- 106 300	0	0	6 800	**245 300**	**162 800**	8%
Norway	- 2 400	- 81 000	**- 83 400**	423 800	- 153 700	- 33 100	0	6 900	**243 900**	**160 500**	7%
Poland[1]	- 3 300	- 28 400	**- 31 700**	483 100	- 42 700	- 86 100	0	45 000	**399 300**	**367 600**	21%
Portugal	- 7 300	- 23 500	**- 30 800**	406 700	- 145 800	- 44 700	0	56 200	**272 400**	**241 600**	16%
Slovak Republic	- 5 000	- 22 400	**- 27 400**	213 500	- 35 100	- 28 600	0	37 600	**187 400**	**160 000**	14%
Slovenia	0	- 37 300	**- 37 300**	498 600	- 117 200	- 110 200	0	32 900	**304 100**	**266 800**	15%
Spain	- 15 300	- 33 800	**- 49 100**	214 700	- 60 600	- 13 400	0	61 000	**201 700**	**152 600**	9%
Sweden	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Switzerland	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Turkey	- 3 700	- 10 900	**- 14 600**	338 500	- 65 000	- 50 800	0	24 000	**246 700**	**232 100**	23%
United Kingdom	m	m	**m**	m	m	m	m	m	**m**	**m**	m
United States	- 40 700	- 60 700	**- 101 400**	808 200	- 245 100	- 61 800	0	68 300	**569 600**	**468 200**	13%
OECD average	- 9 800	- 51 100	**- 60 900**	461 400	- 132 200	- 49 100	- 500	33 400	**313 000**	**252 100**	13%
EU22 average	- 4 600	- 50 100	**- 54 700**	480 000	- 151 800	- 59 900	- 800	38 600	**306 100**	**251 400**	13%

Note: Values are based on the difference between men who attained tertiary education compared with those who have attained upper secondary education. Values have been rounded up to the nearest hundred.
1. Year of reference 2012.
2. Year of reference for direct costs is 2012.
3. Year of reference 2014.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.
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Table A7.1b. **Private costs and benefits for a woman attaining tertiary education (2013)**

As compared with a woman attaining upper secondary education, in equivalent USD converted using PPPs for GDP

	Direct costs	Foregone earnings	Total costs	Earnings benefits decomposition (taking into account the unemployment effect)					Total benefits	Net financial returns	Internal rate of return
				Gross earnings benefits	Income tax effect	Social contribution effect	Transfers effect	Unemployment benefits effect			
	(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)	(7)	(8)	(9)=(4)+(5)+(6)+(7)+(8)	(10)=(9)+(3)	(11)
Australia[1]	- 21 200	- 59 100	**- 80 300**	333 100	- 117 500	0	0	16 000	**231 600**	**151 300**	9%
Austria	0	- 81 300	**- 81 300**	368 800	- 102 400	- 69 700	0	11 100	**207 800**	**126 500**	6%
Belgium	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Canada[2]	- 18 300	- 34 100	**- 52 400**	294 200	- 63 500	- 24 100	0	27 500	**234 100**	**181 700**	13%
Chile	- 24 800	- 43 600	**- 68 400**	340 100	- 3 200	- 23 800	0	29 100	**342 200**	**273 800**	12%
Czech Republic	- 3 900	- 43 400	**- 47 300**	271 500	- 54 500	- 29 900	- 3 800	23 300	**206 600**	**159 300**	11%
Denmark	0	- 62 600	**- 62 600**	235 500	- 96 100	0	- 13 900	14 300	**139 800**	**77 200**	7%
Estonia	- 3 500	- 30 200	**- 33 700**	161 700	- 33 300	- 3 200	0	25 000	**150 200**	**116 500**	14%
Finland	0	- 57 400	**- 57 400**	282 300	- 99 200	- 22 300	0	22 700	**183 500**	**126 100**	9%
France	- 5 900	- 53 100	**- 59 000**	297 400	- 67 800	- 41 000	- 9 000	32 000	**211 600**	**152 600**	9%
Germany[3]	- 2 600	- 66 600	**- 69 200**	363 300	- 93 400	- 74 200	- 4 700	15 500	**206 500**	**137 300**	7%
Greece	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Hungary	- 11 100	- 19 800	**- 30 900**	270 300	- 43 300	- 50 000	0	24 600	**201 600**	**170 700**	15%
Iceland	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Ireland	- 500	- 39 300	**- 39 800**	482 600	- 176 200	- 22 100	- 1 400	54 800	**337 700**	**297 900**	20%
Israel	- 11 400	- 21 700	**- 33 100**	244 400	- 36 700	- 27 900	0	24 800	**204 600**	**171 500**	15%
Italy	- 9 600	- 28 800	**- 38 400**	217 100	- 70 000	- 20 600	0	19 900	**146 400**	**108 000**	8%
Japan[1]	- 44 700	- 71 500	**- 116 200**	266 500	- 22 500	- 36 500	- 72 500	9 400	**144 400**	**28 200**	3%
Korea	- 11 800	- 55 600	**- 67 400**	295 100	- 12 200	- 24 500	0	11 300	**269 700**	**202 300**	9%
Latvia[3]	- 7 000	- 20 200	**- 27 200**	110 800	- 23 800	- 11 600	0	17 100	**92 500**	**65 300**	10%
Luxembourg	0	- 71 400	**- 71 400**	667 200	- 230 200	- 83 100	0	45 400	**399 300**	**327 900**	14%
Mexico	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Netherlands[3]	- 6 900	- 105 400	**- 112 300**	488 900	- 193 800	- 80 900	0	35 800	**250 000**	**137 700**	6%
New Zealand	- 13 200	- 56 600	**- 69 800**	258 200	- 64 600	0	- 2 000	23 600	**215 200**	**145 400**	9%
Norway	- 2 400	- 60 000	**- 62 400**	316 400	- 88 600	- 24 700	0	9 000	**212 100**	**149 700**	9%
Poland[1]	- 3 300	- 25 500	**- 28 800**	297 600	- 26 300	- 53 100	0	40 700	**258 900**	**230 100**	17%
Portugal	- 7 300	- 20 600	**- 27 900**	311 800	- 100 800	- 34 300	0	63 000	**239 700**	**211 800**	16%
Slovak Republic	- 5 000	- 23 500	**- 28 500**	96 400	- 15 900	- 12 900	0	25 100	**92 700**	**64 200**	8%
Slovenia	0	- 36 300	**- 36 300**	373 000	- 80 200	- 82 400	0	35 100	**245 500**	**209 200**	13%
Spain	- 15 300	- 21 300	**- 36 600**	220 900	- 56 000	- 14 000	0	81 000	**231 900**	**195 300**	13%
Sweden	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Switzerland	m	m	**m**	m	m	m	m	m	**m**	**m**	m
Turkey	- 3 700	- 10 400	**- 14 100**	226 900	- 39 200	- 34 000	0	51 700	**205 400**	**191 300**	26%
United Kingdom	m	m	**m**	m	m	m	m	m	**m**	**m**	m
United States	- 40 700	- 47 300	**- 88 000**	466 500	- 111 600	- 35 700	0	41 500	**360 700**	**272 700**	11%
OECD average	- 9 800	- 45 200	**- 55 000**	305 700	- 75 800	- 33 400	- 3 800	29 700	**222 400**	**167 400**	11%
EU22 average	- 4 600	- 46 300	**- 50 900**	318 000	- 90 600	- 40 800	- 1 900	33 500	**218 200**	**167 300**	11%

Note: Values are based on the difference between women who attained tertiary education compared with those who have attained upper secondary education. Values have been rounded up to the nearest hundred.
1. Year of reference 2012.
2. Year of reference for direct costs is 2012.
3. Year of reference 2014.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.
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Table A7.2a. Public costs and benefits for a man attaining tertiary education (2013)

As compared with a man attaining upper secondary education, in equivalent USD converted using PPPs for GDP

	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)
Australia[1]	- 29 300	- 13 100	**- 42 400**	156 100	0	0	10 600	**166 700**	**124 300**	9%
Austria	- 78 400	- 31 700	**- 110 100**	201 500	83 500	0	25 200	**310 200**	**200 100**	7%
Belgium	m	m	**m**	m	m	m	m	**m**	**m**	m
Canada[2]	- 39 400	- 9 400	**- 48 800**	122 700	9 500	0	22 300	**154 500**	**105 700**	8%
Chile	- 21 300	- 4 500	**- 25 800**	17 200	40 900	0	- 2 800	**55 300**	**29 500**	5%
Czech Republic	- 28 700	17 700	**- 11 000**	97 200	53 200	0	20 600	**171 000**	**160 000**	27%
Denmark	- 80 500	- 18 200	**- 98 700**	211 600	0	11 500	10 400	**233 500**	**134 800**	6%
Estonia	- 33 000	- 11 700	**- 44 700**	32 000	3 100	0	11 000	**46 100**	**1 400**	2%
Finland	- 77 700	14 400	**- 63 300**	138 000	27 500	0	31 800	**197 300**	**134 000**	8%
France	- 61 500	- 4 500	**- 66 000**	132 100	67 900	100	24 000	**224 100**	**158 100**	8%
Germany[3]	- 70 700	- 28 800	**- 99 500**	216 300	110 700	0	37 800	**364 800**	**265 300**	9%
Greece	m	m	**m**	m	m	m	m	**m**	**m**	m
Hungary	- 26 000	- 5 200	**- 31 200**	90 200	104 300	0	37 800	**232 300**	**201 100**	17%
Iceland	m	m	**m**	m	m	m	m	**m**	**m**	m
Ireland	- 42 400	- 4 500	**- 46 900**	322 800	28 200	1 200	124 600	**476 800**	**429 900**	19%
Israel	- 22 500	- 1 000	**- 23 500**	113 400	57 100	0	17 300	**187 800**	**164 300**	14%
Italy	- 40 600	- 8 600	**- 49 200**	158 400	40 600	0	25 700	**224 700**	**175 500**	9%
Japan[1]	- 32 600	15 300	**- 17 300**	72 700	60 700	0	20 400	**153 800**	**136 500**	16%
Korea	- 18 900	- 5 700	**- 24 600**	40 500	28 300	0	2 100	**70 900**	**46 300**	7%
Latvia[3]	- 27 100	- 9 200	**- 36 300**	28 100	13 700	0	19 600	**61 400**	**25 100**	5%
Luxembourg	- 151 700	- 7 400	**- 159 100**	301 400	101 700	0	18 200	**421 300**	**262 200**	7%
Mexico	m	m	**m**	m	m	m	m	**m**	**m**	m
Netherlands[3]	- 77 300	- 300	**- 77 600**	277 100	115 000	0	56 300	**448 400**	**370 800**	11%
New Zealand	- 32 900	- 10 600	**- 43 500**	106 300	0	0	2 700	**109 000**	**65 500**	7%
Norway	- 66 600	- 25 800	**- 92 400**	153 700	33 100	0	8 100	**194 900**	**102 500**	5%
Poland[1]	- 23 200	1 100	**- 22 100**	42 700	86 100	0	28 100	**156 900**	**134 800**	15%
Portugal	- 23 900	- 3 200	**- 27 100**	145 800	44 700	0	37 000	**227 500**	**200 400**	12%
Slovak Republic	- 34 400	1 500	**- 32 900**	35 100	28 600	0	33 500	**97 200**	**64 300**	8%
Slovenia	- 34 300	- 7 300	**- 41 600**	117 200	110 200	0	46 700	**274 100**	**232 500**	13%
Spain	- 49 700	- 2 400	**- 52 100**	60 600	13 400	0	61 000	**135 000**	**82 900**	6%
Sweden	m	m	**m**	m	m	m	m	**m**	**m**	m
Switzerland	- 92 400	- 17 300	**- 109 700**	130 100	38 200	0	5 400	**173 700**	**64 000**	4%
Turkey	- 19 500	- 2 000	**- 21 500**	65 000	50 800	0	6 300	**122 100**	**100 600**	10%
United Kingdom	m	m	**m**	m	m	m	m	**m**	**m**	m
United States	- 59 400	- 14 400	**- 73 800**	245 100	61 800	0	61 500	**368 400**	**294 600**	12%
OECD average	- 48 100	- 6 800	**- 54 900**	132 100	48 700	400	27 700	**208 900**	**154 000**	10%
EU22 average	- 53 400	- 5 800	**- 59 200**	151 800	59 900	800	37 000	**249 500**	**190 300**	11%

Note: Values are based on the difference between men who attained tertiary education compared with those who have attained upper secondary education. Values have been rounded up to the nearest hundred.
1. Year of reference 2012.
2. Year of reference for direct costs is 2012.
3. Year of reference 2014.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.
StatLink ⟡⟡ http://dx.doi.org/10.1787/888933559712

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Table A7.2b. **Public costs and benefits for a woman attaining tertiary education (2013)**

As compared with a woman attaining upper secondary education, in equivalent USD converted using PPPs for GDP

	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)
Australia[1]	- 29 300	- 6 300	**- 35 600**	117 500	0	0	11 500	**129 000**	**93 400**	10%
Austria	- 78 400	- 21 000	**- 99 400**	102 400	69 700	0	7 800	**179 900**	**80 500**	4%
Belgium	m	m	**m**	m	m	m	m	**m**	**m**	m
Canada[2]	- 39 400	- 4 700	**- 44 100**	63 500	24 100	0	11 500	**99 100**	**55 000**	7%
Chile	- 21 300	- 3 300	**- 24 600**	3 200	23 800	0	- 6 000	**21 000**	**- 3 600**	1%
Czech Republic	- 28 700	17 300	**- 11 400**	54 500	29 900	3 800	27 300	**115 500**	**104 100**	22%
Denmark	- 80 500	- 18 700	**- 99 200**	96 100	0	13 900	27 800	**137 800**	**38 600**	4%
Estonia	- 33 000	- 6 200	**- 39 200**	33 300	3 200	0	8 700	**45 200**	**6 000**	3%
Finland	- 77 700	23 600	**- 54 100**	99 200	22 300	0	29 200	**150 700**	**96 600**	8%
France	- 61 500	5 400	**- 56 100**	67 800	41 000	9 000	27 000	**144 800**	**88 700**	8%
Germany[3]	- 70 700	- 20 700	**- 91 400**	93 400	74 200	4 700	17 500	**189 800**	**98 400**	6%
Greece	m	m	**m**	m	m	m	m	**m**	**m**	m
Hungary	- 26 000	- 4 900	**- 30 900**	43 300	50 000	0	28 200	**121 500**	**90 600**	11%
Iceland	m	m	**m**	m	m	m	m	**m**	**m**	m
Ireland	- 42 400	- 1 000	**- 43 400**	176 200	22 100	1 400	63 100	**262 800**	**219 400**	15%
Israel	- 22 500	- 400	**- 22 900**	36 700	27 900	0	6 500	**71 100**	**48 200**	8%
Italy	- 40 600	- 5 100	**- 45 700**	70 000	20 600	0	21 800	**112 400**	**66 700**	6%
Japan[1]	- 32 600	15 500	**- 17 100**	22 500	36 500	72 500	13 800	**145 300**	**128 200**	21%
Korea	- 18 900	- 5 400	**- 24 300**	12 200	24 500	0	- 700	**36 000**	**11 700**	4%
Latvia[3]	- 27 100	- 7 600	**- 34 700**	23 800	11 600	0	12 200	**47 600**	**12 900**	4%
Luxembourg	- 151 700	- 7 800	**- 159 500**	230 200	83 100	0	40 600	**353 900**	**194 400**	6%
Mexico	m	m	**m**	m	m	m	m	**m**	**m**	m
Netherlands[3]	- 77 300	- 300	**- 77 600**	193 800	80 900	0	49 400	**324 100**	**246 500**	10%
New Zealand	- 32 900	- 4 900	**- 37 800**	64 600	0	2 000	14 000	**80 600**	**42 800**	6%
Norway	- 66 600	- 13 300	**- 79 900**	88 600	24 700	0	6 300	**119 600**	**39 700**	4%
Poland[1]	- 23 200	1 000	**- 22 200**	26 300	53 100	0	35 000	**114 400**	**92 200**	12%
Portugal	- 23 900	- 2 800	**- 26 700**	100 800	34 300	0	33 300	**168 400**	**141 700**	10%
Slovak Republic	- 34 400	1 600	**- 32 800**	15 900	12 900	0	28 400	**57 200**	**24 400**	5%
Slovenia	- 34 300	- 7 100	**- 41 400**	80 200	82 400	0	47 700	**210 300**	**168 900**	10%
Spain	- 49 700	- 4 100	**- 53 800**	56 000	14 000	0	41 900	**111 900**	**58 100**	5%
Sweden	m	m	**m**	m	m	m	m	**m**	**m**	m
Switzerland	- 92 400	- 14 800	**- 107 200**	68 700	28 400	0	1 100	**98 200**	**- 9 000**	2%
Turkey	- 19 500	- 2 000	**- 21 500**	39 200	34 000	0	20 100	**93 300**	**71 800**	11%
United Kingdom	m	m	**m**	m	m	m	m	**m**	**m**	m
United States	- 59 400	- 9 500	**- 68 900**	111 600	35 700	0	30 400	**177 700**	**108 800**	7%
OECD average	- 48 100	- 3 700	**- 51 800**	75 600	33 300	3 700	22 600	**135 200**	**83 400**	8%
EU22 average	- 53 400	- 3 000	**- 56 400**	90 600	40 800	1 900	31 500	**164 800**	**108 400**	8%

Note: Values are based on the difference between women who attained tertiary education compared with those who have attained upper secondary education. Values have been rounded up to the nearest hundred.
1. Year of reference 2012.
2. Year of reference for direct costs is 2012.
3. Year of reference 2014.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.
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Table A7.3a. **Private/public costs and benefits for a man attaining tertiary education, by level of tertiary education (2013)**

As compared with a man attaining upper secondary education, in equivalent USD converted using PPPs for GDP

	Short-cycle tertiary (ISCED 5)						Bachelor's, master's and doctoral or equivalent levels (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)
Australia[1]	- 34 100	183 700	**149 600**	- 16 500	101 300	**84 800**	- 103 400	336 700	**233 300**	- 45 500	195 300	**149 800**
Austria	- 43 500	238 100	**194 600**	- 51 200	219 600	**168 400**	- 79 800	513 500	**433 700**	- 96 200	422 100	**325 900**
Belgium	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Canada[2]	- 49 600	169 200	**119 600**	- 30 000	91 200	**61 200**	- 63 500	400 100	**336 600**	- 57 300	208 800	**151 500**
Chile	- 28 000	187 700	**159 700**	- 5 400	12 800	**7 400**	- 69 100	774 300	**705 200**	- 23 700	74 600	**50 900**
Czech Republic	m	m	**m**	m	m	**m**	- 48 400	367 100	**318 700**	- 10 900	176 100	**165 200**
Denmark	- 27 300	83 500	**56 200**	- 44 000	73 600	**29 600**	- 63 100	253 000	**189 900**	- 102 000	266 100	**164 100**
Estonia	a	a	**a**	a	a	**a**	m	m	**m**	m	m	**m**
Finland	a	a	**a**	a	a	**a**	- 50 800	256 900	**206 100**	- 63 300	235 600	**172 300**
France	- 28 900	205 100	**176 200**	- 27 500	123 600	**96 100**	- 65 600	504 800	**439 200**	- 62 500	306 500	**244 000**
Germany[3]	m	m	**m**	m	m	**m**	- 73 900	378 400	**304 500**	- 99 900	386 200	**286 300**
Greece	a	a	**a**	a	a	**a**	m	m	**m**	m	m	**m**
Hungary	m	m	**m**	m	m	**m**	- 33 300	419 100	**385 800**	- 32 000	235 100	**203 100**
Iceland	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Ireland	- 25 000	273 700	**248 700**	- 26 600	286 000	**259 400**	- 44 200	532 900	**488 700**	- 46 800	567 300	**520 500**
Israel	- 17 500	97 700	**80 200**	- 17 900	49 500	**31 600**	- 43 400	421 200	**377 800**	- 28 100	261 000	**232 900**
Italy	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Japan[1]	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Korea	- 41 200	158 600	**117 400**	- 8 600	33 400	**24 800**	- 72 200	331 700	**259 500**	- 28 200	81 700	**53 500**
Latvia[3]	- 21 600	20 200	**- 1 400**	- 23 900	26 200	**2 300**	- 33 400	115 200	**81 800**	- 40 000	64 000	**24 000**
Luxembourg	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[3]	- 42 700	172 400	**129 700**	- 21 500	247 100	**225 600**	- 87 600	275 200	**187 600**	- 60 100	472 700	**412 600**
New Zealand	- 54 800	76 900	**22 100**	- 20 500	30 300	**9 800**	- 85 100	272 600	**187 500**	- 47 900	121 700	**73 800**
Norway	- 47 000	126 100	**79 100**	- 49 700	107 800	**58 100**	- 92 000	308 500	**216 500**	- 102 000	244 200	**142 200**
Poland[1]	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Portugal	m	m	**m**	m	m	**m**	- 38 200	282 100	**243 900**	- 33 500	237 100	**203 600**
Slovak Republic	m	m	**m**	m	m	**m**	- 28 400	181 800	**153 400**	- 34 300	102 600	**68 300**
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**	m	m	**m**	m	m	**m**
Turkey	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
United Kingdom	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
United States	- 45 500	177 800	**132 300**	- 33 100	116 500	**83 400**	- 100 900	685 700	**584 800**	- 73 600	446 200	**372 600**
OECD average	m	m	**m**	m	m	**m**	- 63 800	373 300	**316 700**	- 54 400	255 200	**200 900**
EU22 average	m	m	**m**	m	m	**m**	- 53 900	331 500	**286 100**	- 56 800	289 300	**232 500**

Note: Values are based on the difference between men who attained a specific level of tertiary education compared with those who have attained upper secondary education. Values have been rounded up to the nearest hundred.
1. Year of reference 2012.
2. Year of reference for direct costs is 2012.
3. Year of reference 2014.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.
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Table A7.3b. Private/public costs and benefits for a woman attaining tertiary education, by level of tertiary education (2013)

As compared with a woman attaining upper secondary education, in equivalent USD converted using PPPs for GDP

	Short-cycle tertiary (ISCED 5)						Bachelor's, master's and doctoral or equivalent levels (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)
Australia[1]	- 27 700	124 000	**96 300**	- 13 500	67 400	**53 900**	- 87 900	285 300	**197 400**	- 38 400	158 300	**119 900**
Austria	- 38 600	154 300	**115 700**	- 46 200	132 500	**86 300**	- 70 700	276 700	**206 000**	- 86 900	241 300	**154 400**
Belgium	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Canada[2]	- 42 700	131 000	**88 300**	- 26 900	54 900	**28 000**	- 51 600	329 000	**277 400**	- 51 900	144 700	**92 800**
Chile	- 22 100	112 700	**90 600**	- 4 900	6 900	**2 000**	- 56 700	493 900	**437 200**	- 22 800	33 400	**10 600**
Czech Republic	m	m	**m**	m	m	**m**	- 47 300	220 200	**172 900**	- 11 300	122 000	**110 700**
Denmark	- 28 000	92 600	**64 600**	- 44 200	79 700	**35 500**	- 64 700	159 000	**94 300**	- 102 500	131 300	**28 800**
Estonia	a	a	**a**	a	a	**a**	m	m	**m**	m	m	**m**
Finland	a	a	**a**	a	a	**a**	- 57 400	233 600	**176 200**	- 54 100	195 800	**141 700**
France	- 24 300	159 400	**135 100**	- 23 100	129 200	**106 100**	- 56 200	271 700	**215 500**	- 53 400	177 100	**123 700**
Germany[3]	m	m	**m**	m	m	**m**	- 69 500	210 300	**140 800**	- 91 800	195 900	**104 100**
Greece	a	a	**a**	a	a	**a**	m	m	**m**	m	m	**m**
Hungary	m	m	**m**	m	m	**m**	- 32 200	205 500	**173 300**	- 31 700	123 300	**91 600**
Iceland	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Ireland	- 22 500	225 500	**203 000**	- 24 600	166 700	**142 100**	- 39 800	396 700	**356 900**	- 43 300	321 500	**278 200**
Israel	- 14 900	54 300	**39 400**	- 17 600	19 600	**2 000**	- 38 800	249 400	**210 600**	- 27 600	99 500	**71 900**
Italy	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Japan[1]	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Korea	- 39 600	136 000	**96 400**	- 8 400	15 300	**6 900**	- 69 400	329 700	**260 300**	- 27 900	48 500	**20 600**
Latvia[3]	- 19 400	25 100	**5 700**	- 22 900	20 700	**- 2 200**	- 29 600	98 500	**68 900**	- 38 300	50 100	**11 800**
Luxembourg	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[3]	- 42 300	131 500	**89 200**	- 21 500	138 900	**117 400**	- 86 900	270 300	**183 400**	- 60 100	352 200	**292 100**
New Zealand	- 46 500	103 700	**57 200**	- 16 800	38 800	**22 000**	- 72 000	234 800	**162 800**	- 42 000	88 900	**46 900**
Norway	- 34 800	112 500	**77 700**	- 42 400	66 600	**24 200**	- 68 800	243 000	**174 200**	- 88 300	137 200	**48 900**
Poland[1]	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
Portugal	m	m	**m**	m	m	**m**	- 34 600	248 400	**213 800**	- 33 000	176 400	**143 400**
Slovak Republic	m	m	**m**	m	m	**m**	- 29 600	88 700	**59 100**	- 34 300	61 000	**26 700**
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**	m	m	**m**	m	m	**m**
Turkey	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
United Kingdom	m	m	**m**	m	m	**m**	m	m	**m**	m	m	**m**
United States	- 39 500	123 900	**84 400**	- 30 800	66 300	**35 500**	- 87 600	435 100	**347 500**	- 68 600	221 900	**153 300**
OECD average	m	m	**m**	m	m	**m**	- 57 600	264 000	**206 400**	- 50 400	154 000	**103 600**
EU22 average	m	m	**m**	m	m	**m**	- 51 500	223 300	**171 800**	- 53 400	179 000	**125 600**

Note: Values are based on the difference between women who attained a specific level of tertiary education compared with those who have attained upper secondary education. Values have been rounded up to the nearest hundred.
1. Year of reference 2012.
2. Canada: Year of reference for direct costs is 2012.
3. Year of reference 2014.
Source: OECD (2017). See *Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).
Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.
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