

Thematic Working Group on Early School Leaving



Overview and examples of costs of early school leaving in Europe

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1 Introduction

The current economic climate has led to constrained public resources across Europe. Governments across Europe are seeking to 'balance their books' and reduce public debt. This means that the funds available for policy delivery (including delivery of education, training, early school leaving policies and specific interventions for at-risk groups) are increasingly stressed, limited or are threatened by future cuts.

At the same time, research shows that participation in high quality education has benefits not only for young people themselves but also for taxpayers and society. These benefits typically last over the course of individual's lifetime. In turn, inadequate education can lead to large public and social costs in the form of lower income and economic growth, reduced tax revenues and higher costs of public services related, for example, to healthcare, criminal justice and social benefit payments¹. For this reason, even in the context of constrained public sector budgets, it is essential to take into consideration the short, medium and long term costs associated with investments in education and training.

The importance of understanding and being aware of the costs associated with early school leaving (ESL) were indeed highlighted during the first meetings of the Thematic Working Group. It was recognised that research has been carried out on this topic in several European countries (and also internationally) but the results of these studies may not be known by all, especially as a result of language barriers.

For this reason, the TWG members decided to collect information on the results of national studies that have sought to calculate the costs associated with ESL (or social exclusion in broader terms) and make the results of these studies available to the whole group and other stakeholders.

This summary paper includes an overview of those results. The findings of a recent Eurofound study into the cost of NEET (young people Not in Employment, Education or Training) phenomenon in the EU have also been included. Therefore this small paper is *not* a research document as such, but instead provides a short summary of the findings drawn from the national studies and to the extent possible, explains the methods used by the studies in question². Overall, this is hoped to help stakeholders in countries where similar studies have not been undertaken to date to support arguments in favour of tackling ESL.

The paper has been divided into two short sections:

- Methodologies used to calculate the cost of ESL, including an overview of their main limitations; and
- Key findings on the cost of ESL / NEET / social exclusion.

Annexes include more detailed information on the following countries:

- Bulgaria
- Estonia
- Finland
- Hungary
- Ireland
- Norway
- United Kingdom
- Cost of NEET in 21 EU countries

¹ See, for example: Belfield, C. & Levin, H. (eds) (2007), *The Price We Pay: Economic and Social Costs of Inadequate Education*; NESSE, 2009; Psacharopoulos, 2007. Brookings Institute, Washington. Nevala, A-M, Hall, J. (2011) *Reducing early school leaving in the EU*. European Parliament. Psacharopoulos, G. (2007), *The Costs of School Failure A Feasibility Study*. European Expert Network on Economics of Education

² Please note that such information was not available on all studies.

2 Methodologies used to calculate the cost of ESL

The aim of this section is to shed some light into the methods used to calculate the cost of ESL. It starts with a background to costs associated with ESL, followed by an illustration of the steps taken by different studies to calculate such costs. It is followed by a few words about the scope of different studies and a list of effects of ESL that have been quantified by some of the studies. The section ends with a list of limitations that need to be taken into consideration when reading results of studies on this topic.

2.1 Background to costs associated with ESL

No matter how early school leaving / school failure / inadequate education are defined, the phenomenon is typically associated with a range of different types of costs. Before going further, it is however important to point out that not all young people leave school leave for negative reasons and many have and go to achieve ambitious life and career goals. However, evidence implies that in generic terms, leaving education early has adverse effects on most individuals and consequently there are many costs associated with this phenomenon.

Some of the costs are realised by the individual (e.g. health and salary implications) while others have either a direct impact on state finances (e.g. tax revenues and benefit payments) or an indirect impact on society as a whole (e.g. crime implications). Some effects of ESL have cost implications for all: individual, state and society. For example, a low level education can limit employment opportunities and earnings potential of early school leavers, and thereby lead to reduce income tax payments and increased risk of need for social benefits and participation in different welfare programmes.

Information from the national studies is not enough to draft a framework of costs associated with ESL, however numerous US based authors as well as Professor George Psacharopoulos³ from Greece have attempted to draft such frameworks. The framework introduced by Professor Psacharopoulos is included below and it illustrates the cost elements associated with each category (individual, social and fiscal). His work also differentiates between direct and indirect effects of education⁴, with the former referring to an effect when education changes behaviour conducive to a particular outcome. An example of the direct effect of education on a health outcome is better awareness among the more educated of the harmful effects of smoking. An indirect effect is when education impacts and intermediate variable that in turn affects the outcome. For example, to the extent that education increases workers income, the more educated are able to buy high quality health services, leading to less burden of disease to society.

Table 2.1 Categories of costs related to ESL

Cost category	Cost elements
Private (individual)	<ul style="list-style-type: none"> Higher unemployment incidence Higher unemployment duration Lower initial and lifetime earnings Lower own health status Higher own discount rate Less risk aversion Less lifelong learning participation Lower quality of human capital (children) Lower lifetime satisfaction
Social	<ul style="list-style-type: none"> Increased criminality Lower positive spill over effects on co-workers Lower rate of economic growth

³ Psacharopoulos, G. (2007), *The Costs of School Failure A Feasibility Study*. European Expert Network on Economics of Education.

⁴ The following two examples taken directly from the publication of Psacharopoulos (2007), page 7.

Cost category	Cost elements
	Lower intergenerational effects on children and parents Lower public health status Higher unemployment Lower social cohesion
Fiscal	Lower tax revenues Higher unemployment and welfare payments Higher public health expenditures Higher police expenditure Higher criminal justice expenditure

Source: Psacharopoulos, G. (2007), [The Costs of School Failure A Feasibility Study](#). European Expert Network on Economics of Education.

2.2 Step-by-step process to calculate the cost of ESL

With regards to methodologies chosen to calculate the cost of ESL, the national studies have typically followed the following steps, although it must be mentioned that the exact number and nature of steps depends on the scope of each study. These steps are introduced in the box below.

Box 1 Step-by-step process to calculate the cost of ESL or other related problems

1. Identification of the problem (*whether the studies have sought to calculate the cost of ESL, school failure or something else related such as cost of social exclusion at young age, cost of youth unemployment or cost of being NEET, etc.*).
2. Definition of the problem (*e.g. definition of an early school leaver, definition of being NEET, etc.*)
3. Definition and calculation of the size and nature of the target group (*e.g. early school leavers, NEETs, excluded young people, etc.*)
4. Identification of potential adverse effects of being an early school leaver / excluded young people / NEET (*current, medium term and long term effects for individual, family, state and/or society*)
5. Identification and calculation of the costs related to adverse effects of ESL / per person (*unit cost*)
6. Calculation of the number/share of the target group experiencing particular adverse effects vs. an average young person (*non-target group*)
7. Finally, calculation of the excess costs for the target group (*early school leavers / excluded young people / NEET*) in comparison to non-target group.

2.3 The scope of studies

In terms of scope, the national studies into cost of ESL can be grouped into two main categories:

- Studies which focus on the cost implications of ESL status on employment and income potential (e.g. IE and NO); and
- Broader studies taking into consideration a range of cost implications of ESL status by going *beyond* costs linked to employment and income to include elements such as public expenditure on criminal justice, health care, welfare costs, etc (e.g. EE, FI, UK).

The former are more simplistic in their method in that they focus on calculating the cost of exclusion from the labour market, based on the assumption that early school leavers are more likely to end up spending at least part of their working life as unemployed and are more likely to earn less than their higher educated peers. For example, authors who looked at costs related to young people leaving the education system without a Leaving Certificate in Ireland have made their calculations on the basis of the costs of jobseekers allowance (a

form of unemployment benefit in IE), additional lone parent benefits (early school leavers concentrate a significant share of lone parents) and loss of tax revenue⁵.

The latter go beyond the impact on employment and income to look at implications on issues such as health spending, disability benefits, pension, crime rates, etc. Such studies have categorised the costs included in two main ways. The Estonian study distinguishes costs on the basis of costs for individuals (direct monetary costs through lower wages and lower probability of being employed, poor health), fiscal costs for government (such as foregone tax earnings and higher need for welfare payments), and wider social costs (such as higher crime rates).

Perhaps the most comprehensive of its kind is the study from the UK on the cost NEET (young people not in Employment, Education or Training) at the age of 16 to 18, carried out by Coles et al in 2002 and 2010⁶. While these studies are not directly about the cost of ESL, it gives a good impression of the types of indicators used to calculate costs related to exclusion. These studies have divided the NEET related costs into 'public finance costs' and 'resource costs':

- 'Public finance costs' attempt to identify the impact on public finances arising from the NEET group and takes into account welfare schemes (such as unemployment benefits, child benefits, housing benefits, education-related allowances and others) as well as additional health, welfare and criminal justice expenditure.
- 'Total resource costs' include estimates of the loss to the economy, losses arising from welfare benefits to the individual and the family, as well as the impact in terms of the resources or opportunity costs to the rest of society (employee and self-employment income, non-cash employee benefits, goods produced by own consumption, pensions from private plans, etc).

2.4 Quantifying effects of ESL

The following table includes a long list of effects of ESL which have been attempted to quantify by some of the national studies in question. None of the studies have quantified these all; instead this is a long list of items recognised by a range of different studies. At the same time, all cost elements may not have been included here as such information was not available for all studies.

It is also worth noting that some of the studies go further by defining current, medium and long-term costs for each effect and recognise individual, family, state and society related effects for each item, even if they are not able to quantify them all.

Table 2.2 Quantifying effects of ESL (calculated on the basis of comparative analysis between early school leavers and non-ESLs)

Effects related to	Cost elements
(Un)employment / inactivity	Cost of unemployment benefits on the basis of risk, incidence and length of unemployment spells
	Costs related to unemployment insurance (when relevant)
	Cost of employment advice
Income	Initial and lifetime earnings of early school leavers
Welfare	Cost of welfare / social benefits, including disability benefits
	Cost of participation in welfare / social / reintegration programmes /

⁵ Smyth, E. and McCoy, S. (2009), *Investing in Education: Combating Educational Disadvantage*, Economic and Social Research Institute, Dublin, 2009. Available from Internet: pages. 37-56 (summary on pages 55 & 56)

⁶ Coles et al., (2010), *Estimating the life-time cost of NEET: 16-18 year olds not in Education, Employment or Training*. Research Undertaken for the Audit Commission by University of York, 2010.

Coles, B et al., (2002), *Literature Review of the Costs of Being 'Not in Education, Employment or Training' at Age 16-18*. Research report 347. University of York / University of Hull, 2002.

Effects related to	Cost elements
	interventions
	Cost of welfare and other social advice
Loss of tax revenues	Loss of / reduction in income tax
	Loss of / reduction in other taxes such as national insurance (where relevant)
Crime	Costs related to prosecution: <ul style="list-style-type: none"> - Identification of a young offender - Prosecution of a young offender - Handling outcomes of a prosecution (e.g. caution, custody, etc.)
	Costs related to impact of crime: <ul style="list-style-type: none"> - Direct costs of crime (e.g. burglaries, violence, etc.) to victims, police and insurance companies - Indirect costs of crime (e.g. arson of a library means alternative accommodation must be found and shops in areas with pickpockets may attract fewer customers) - Social costs of crime (e.g. physical injury, psychological stress)
Poor health and substance abuse	Costs to health services (e.g. doctors visits, rehabilitation, hospital stay, drugs, etc.)
	Costs to individuals (e.g. loss of job opportunities, etc.)
Personal situation	Costs related to early motherhood (e.g. loss of earnings, benefit payments, etc.)
	Costs related to homelessness
Pension	Differences in pension incomes
	Differences in ability to pay for care in old age

2.5 Limitations of methodologies used

The methodologies used by the studies have many strengths but none of them come without caveats. Limitations that need to be taken into consideration when reading the findings include the following:

- *Complications related to estimating medium and long-term consequences:* Calculations on lifetime cost of ESL are made on the basis of numerous different assumptions. For example, the exact long-term earning potentials of early school leavers vs. more highly educated peers are impossible to predict and have to be based on certain assumptions. Furthermore, technological advancements and tax system alternations can alter salaries and employment opportunities for people with different educational backgrounds. There are also likely to be medical advancements, changes to pensions, changes to financing care in old age, etc. – all of which have an impact on figures used as a basis for calculations.
- *Economic cycle:* A comparison of potential adverse effects for this target group depends on the economic situation. Certain consequences, especially those related to chances of being unemployed, tend to become greater during economic downturns than when the economy is booming.
- *Double-counting:* There may be some double-counting in the items as many costs are experienced by individuals, families, state and society as a whole.
- *Lack of data:* Data for measuring costs related to this phenomenon are scarce and many items are missing. Therefore, and despite of some double counting, in many cases the total cost estimates are seen as minimum estimates of the cost of ESL.
- *Differences in chosen methods:* The studies utilise a range of different methodologies and vary significantly in their scope, with a direct impact on the figures.

- *Lack of 'guarantees'*: Research shows that higher qualification levels have multiple benefits for most young people but there are no guarantees that all young people who have received significant additional support to reach an upper secondary qualification will automatically translate the new qualification into employment opportunities, etc.
- *Differences in cost bases and discount rates*: Many studies have to rely on out-of-date cost estimates and they vary in discount rates used (often 3-6%).

3 Key findings on the cost of ESL

Results of national studies into cost of ESL confirm that there are major costs to individuals, families, state and society from ESL. As shown by Table below, these range from **the region of EUR 100,000 – EUR 200,000 up to EUR 1.1 million over the course of an individual's lifetime**. As already explained above, the differences in these results are caused by differences in social welfare systems, salary differences between the low and high skilled, methodologies used (the scope of studies in particular), and differences in definitions of target groups (e.g. some calculate directly the cost of ESL while others look at the cost of social exclusion in a broader sense). They however do confirm that it is possible to quantify many of the adverse effects of this phenomenon and that the state have to bear a range of costs from this problem.

Table 3.1 Cost of ESL / exclusion / NEET status over lifetime of an individual

Country	Per lifetime			Definitions / notes	Source
	Costs	Loss of tax revenue	Total		
Estonia	N/A	N/A	€ 78,000 – 157,000	Figures refer to the cost of ESL	Anspal, S. et al. (2011) <i>The cost of school failure in Estonia</i> . CENTAR, Eesti Rakendusuuringute Keskus.
Finland	€ 400,000	€ 700,00	€ 1.1 million	Figures refer to the cost of social exclusion (exclusion from the labour market)	National Audit Office (Valtiontalouden tarkastusvirasto) (2007), <i>Nuorten syrjäytymisen ehkäisy</i> . Toiminnantarkastuskertomus 146/2007. Valtiontalouden tarkastusvirasto, Helsinki.
Ireland	Male: €12,300 Female: €16,300	€ 17,000	Male:€29,300 Female: €33,300	Underestimates as the calculations have not included crime and health related costs.	Smyth, E. and McCoy, S. (2009), <i>Investing in Education: Combating Educational Disadvantage</i> , Economic and Social Research Institute, Dublin, 2009. Pages. 37-56 (summary on pages 55 & 56)
Norway	N/A	N/A	NOK 900,000 (around € 120,000)	Figures refer to early school leavers and exclude crime and health related costs	Torberg Falch, Anne Borge Johannesen og Bjarne Strøm (2009) <i>Kostnader av frafall i videregående opplæring</i> . SØF rapport nr. 8/09
UK	£ 56,300	£ 104,300	N/A	All the UK figures relate to the cost of being NEET (young people Not in Employment, Education or Training), aged 16 and 18.	Coles et al., (2010), <i>Estimating the life-time cost of NEET: 16-18 year olds not in Education, Employment or Training</i> . Research Undertaken for the Audit Commission by University of York, 2010.

Results of national studies also reveal the total gains countries can achieve from the reduction of ESL. For example, a recent study from Estonia revealed that the country would gain around 0.7% of GDP per age cohort (on the basis of discount rate of 3 %) if the rate of ESL was cut half. A study from Hungary on increasing the education level of Roma children found that increasing the education level of Roma children from primary to secondary education can gain an income of around EUR 30,000 – 70,000 per person for the state, even without taking into consideration costs related to unemployment and offending. Another Hungarian study found that in general terms the rate of return from secondary level education, in comparison to primary education, is in the region of 50-170%.

Table 3.2 Financial gains from the reduction of ESL

Country	Total cost of ESL to the country	Notes	Source
Estonia	If ESL could be cut half for one age cohort, the country would gain: about 0.7% of GDP, equalling to EUR 113.8 million by using 3 % discount rate; and about 0.35% of GDP, equalling to EUR 56.6 million by using 6 % discount rate.	Figures refer to the cost of ESL	Anspal, S. et al. (2011) <i>The cost of school failure in Estonia</i> . CENTAR, Eesti Rakendusuringute Keskus.
Hungary	Increasing education level of Roma children from having at most primary level education to upper secondary qualification would gain of an income of around EUR 30,000 – 70,000 per person for the state. The gains are consisted of taxes after income and consumption, and social security payments.	Excludes the costs related to unemployment and offending.	Kertesi Gábor - Kézdi Gábor (2006) <i>A hátrányos helyzetű és roma fiatalok eljuttatása az érettségijéhez</i> . BWP füzetek 6. MTA Közgazdasági Intézet.
Norway	If the ESL rate could be reduced by one third, the total societal costs would be reduced by NOK 5.4 billion (around EUR 723 million) per age cohort. The top estimate of reduced societal costs is NOK 8.8 billion (around EUR 1.2 billion), while the lower bound is NOK 1.1 billion (around EUR 146 million).	Figures refer to early school leavers and exclude crime and health related costs	Torberg Falch, Anne Borge Johannesen og Bjarne Strøm (2009) <i>Kostnader av frafall i videregående opplæring</i> , SØF rapport nr. 8/09
UK	Estimates of public finance cost of young people who are NEET vary from £ 12 billion to £ 32.5 billion Resource costs associated with NEET range from just under £ 22 billion to nearly £ 77 billion.	All the UK figures relate to the cost of being NEET (young people Not in Employment, Education or Training), aged 16 and 18.	Coles et al., (2010), <i>Estimating the life-time cost of NEET: 16-18 year olds not in Education, Employment or Training</i> . Research Undertaken for the Audit Commission by University of York, 2010.

At the same time, Bulgarian calculations on salary differences between early school leavers and persons with an upper secondary qualification did not find similar gains. They concluded a salary difference of EUR 7,280 for the whole working life.

Recent calculations of Eurofound⁷ on the cost of being NEET (Not in Employment, Education or Training) have sought to calculate the cost effects of this phenomenon across the EU. They performed the analysis by using the 2008 European Union Statistics on Income and Living Conditions (EU-SILC), which is the Eurostat representative annual cross-sectional and longitudinal survey on living conditions of the population in private households in Europe. Comparable data was available for 21 Member States (excluding DK, EL, FI, FR, MT and SE due to missing variables).

Their findings show that an annual cost of NEETs to the 21 countries in question is approximately EUR 100 billion, which **corresponds to 1% of their aggregated GDP**. This consists of EUR 94 billion in foregone earnings and EUR 7 billion of excess transfers. A weekly cost of the problem is in the region of EUR 2 billion⁸.

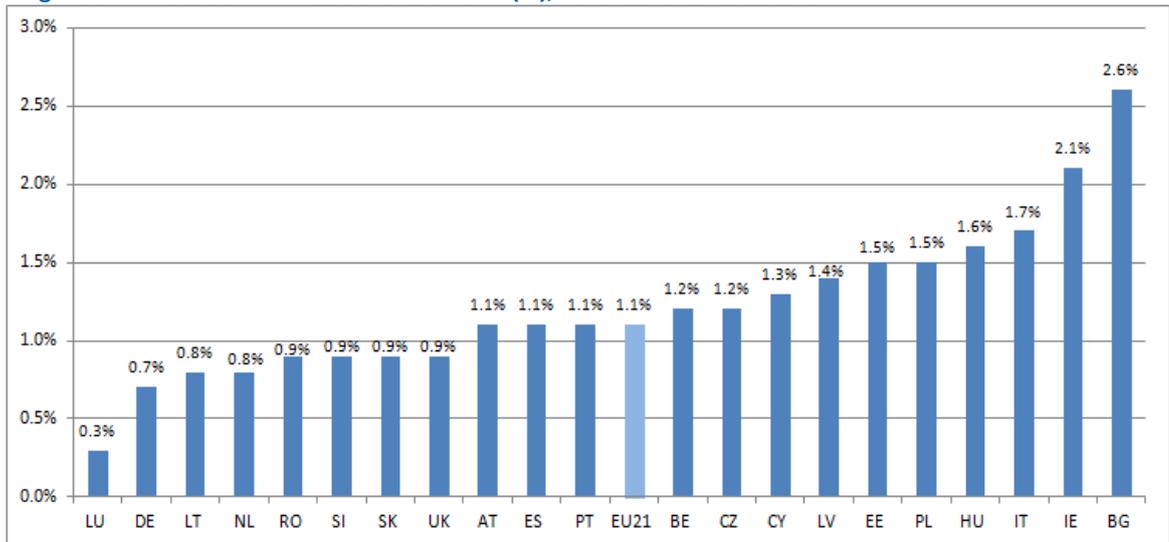
In absolutely terms, larger Member States like Italy, UK and Germany bear the greatest costs while in relative terms (in terms of percentage of GDP), Ireland and Bulgaria have the biggest uphill battle to pay the cost of the problem, with an annual cost of the problem exceeding 2% of GDP.

Authors of the report however do want to point out that the figures have to be seen as under-estimates of real costs (of around 0-10 points) of NEETs, as costs related to homelessness, health implications, criminal justice and unpaid taxes on foregone earnings are not included in the definition used.

⁷ European Foundation for the Improvement of Living and Working Conditions (2010), [Young people and NEETs in Europe: First findings](#). Résumé. Page 5.

⁸ Ibid.

Figure 3.2 Cost of NEET as a share of GDP (%), Eurofound calculations



Source: European Foundation for the Improvement of Living and Working Conditions (2010), [Young people and NEETs in Europe: First findings](#). Résumé. Page 5.

4 Conclusions

The studies show that:

- A range of methodologies are used to calculate the potential cost of ESL on individuals, state and society as a whole, with all chosen methodologies having different strengths and weaknesses in terms of how reliable and comprehensive they are. Despite of limitations, as quoted by the authors of a recent Estonian study into cost of school failure *'we can and should make educated guesses as the stakes are high'*.⁹
- The results show that young people's life chances are adversely affected by inadequate education, with 'inadequate' referring to both quality and qualification level of education. Higher education levels are associated with higher earnings, increased labour market participation, lower better health and improvements in family life, lower levels of poverty and lower levels of criminal behaviour.
- Lifetime costs of ESL per person range from the region of EUR 100,000 – EUR 200,000 up to EUR 1.1 million.
- The European wide study into the cost of NEETs found that annual bill of the problem is approximately EUR 100 billion, corresponding to 1% of GDP. A weekly cost of the problem is in the region of EUR 2 billion.
- In the context of financial pressures, it is particularly important that policy makers make the right choices in terms of the investments they choose to focus on. These studies suggest that there are significant long-term savings to be made from investments in reducing ESL.

⁹ Anspal, S. et al. (2011) [The cost of school failure in Estonia](#). CENTAR, Eesti Rakendusüuringute Keskus.

Annex 1 Data on the cost of ESL in Bulgaria

COUNTRY: Bulgaria	
Definition	According to the UNICEF report an average school leaver in Bulgaria drops out from education just before the completion of 7 th grade, more than a year before completing basic education (ISCED 2).
Cost per early school leaver	<p>Annual</p> <p>The Bulgarian stakeholders have aimed to calculate the net effect of the early school leaving. The task was divided into comparisons of costs and benefits for students who leave education before completion of secondary education and for students how have completed secondary education.</p> <p>According to the UNICEF report an average school leaver in Bulgaria drops out from education just before the completion of 7th grade - more than a year before completion of basic education (ISCED 2). In other words, we have compared the difference between an average 'early school leaver' (attaining only primary education (ESCED 0 and 1) and an average student who has completed secondary education (ISCED 3).</p> <p>In order to calculate public expenses saved by a young person not attending school, the cost of a year in school education is in the region of 1,000 EUR. Since an average early school leaver misses 4 school years we can conclude that the state saves around EUR 4,000 per each early school leaver.</p> <p>According to the EUROSTAT data from 2006 mean annual earnings of workers with ISCED 0 and 1 is EUR 1,804 and workers' with ISCED 3 around EUR 1,986. This means that the annual earnings of individuals with an ISCED 3 level qualification in Bulgaria are only 9.16% higher than the earnings of early school leavers. This means that an annual income difference is only 182 EUR.</p> <p>A report of Harmon, Oosterbeek and Walker (2003) (<i>The Returns to Education: A Review of Evidence, Issues and Deficiencies in the Literature</i>) using data from International Social Survey Programme (ISSP), conducted in 1995, sought to establish a link between time spent in education and income. The results vary across countries, with an additional year in education being associated with between 3 and 13% higher earnings for men and 3-16% for women. Countries with the lowest returns of education are the Netherlands, West Germany, Austria, Canada, while highest returns (over 7%) can be found, according to this study, in Poland, USA, UK, Ireland. For Bulgaria, the authors found an annual difference of about 4.96% for men and 6.24% for women.</p>
	<p>Lifetime</p> <p>If a 40 year working life is assumed for both categories of workers, this means the salary difference between an early school leaver and a person who has completed secondary education is EUR 7,280 for the whole working life.</p> <p>If we take into consideration that during the 4-year period that the early school leaver is not attending school but working with an annual average salary of EUR 1,804, then he/she makes an additional EUR 7,216.</p> <p>These calculations show extremely limited direct financial benefits (incentives) for not leaving education early and completing secondary school education.</p> <p>However, these calculations do not include several key factors like unemployment rate, social benefits, tax generation, effects on crime and health, etc.</p>
Total cost of ESL in the country	<p>According to the analyses of the Bulgarian Institute for Economy and International Relations commissioned by OSI – Sofia in 2006 ("The Price of Roma Inclusion") the overall integration of all children of socially disadvantaged groups requires an investment of about EUR 300 million. The authors made conclusion that the investment should come from Bulgarian and EU sources. The investment is expected to yield returns within 18 years if 57% EU contribution is made.</p> <p>However, this calculation does not include several key factors like unemployment rate, social benefits, tax generation, effects on crime and health.</p> <p>A series of surveys held on cost benefits of Roma inclusion in Bulgaria (OSI and World Bank) also demonstrates that investment in all of the above mentioned factors yields benefits. For example a report of OSI Sofia from 2006 (Bogdanov L., Angelov G., "Integration of Roma in Bulgaria: necessary reforms and economic effects") demonstrated that that investments between EUR 350 - 600 million can turn out benefits amounting between EUR 750 – 15,000 million over a period of 10 years.</p>
Other information / details on the cost of ESL	Targeted surveys on specific vulnerable groups are useful analysing the situation of specific sub-groups and develop a focused policy. For example the 2010 publication of the World Bank on Economic Costs

	Roma Exclusion demonstrated that better educated Roma can expect much higher earnings. Compared to Roma with primary education, Roma who complete secondary education can expect to earn 83% more in Bulgaria, 110% more in the Czech Republic, 144% more in Romania, and 52% more in Serbia.
Sources	<p>EUROSTAT web-site, http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/</p> <p>OSI Sofia and Bulgarian Institute for Economy and International Relations (2006) <i>The Price of Roma Inclusion</i>.</p> <p>Bogdanov L., Angelov G., (2006) <i>Integration of Roma in Bulgaria: necessary reforms and economic effects</i>.</p> <p>Harmon, Oosterbeek and Walker (2003) <i>The Returns to Education: A Review of Evidence, Issues and Deficiencies in the Literature</i>.</p> <p>World Bank (2010) <i>Economic Costs Roma Exclusion</i>. http://siteresources.worldbank.org/EXTROMA/Resources/Economic_Costs_Roma_Exclusion_Note_Final.pdf</p>

Annex 2 Data on the cost of ESL in Estonia

COUNTRY: Estonia																																						
Definition	<p>Early school leaver in this study defined as someone who drops out of education before the completion of upper secondary education.</p> <p>Costs have been calculated on the basis of:</p> <ul style="list-style-type: none"> • Costs for individuals – direct monetary costs through lower wages and lower probability of being employed, lower health; • Fiscal costs for government like foregone tax earnings and higher need for welfare payments; and • Wider social costs like higher crime rates, lower participation in civic society. 																																					
Cost per early school leaver	Annual	N/A																																				
	Lifetime	<p>Cost of early school leaving amounts to:</p> <ul style="list-style-type: none"> • EUR 78,000 per person over lifetime, when calculated on the basis of a discount rate of 6 % • EUR 157,000 per person over lifetime, when calculated on the basis of a discount rate of 3 %. <p>These calculations included the following costs (EUR):</p> <table border="1"> <thead> <tr> <th>Type of cost</th> <th>Discount rate 6 %</th> <th>Discount rate 3 %</th> </tr> </thead> <tbody> <tr> <td>Earnings</td> <td>23,000</td> <td>49,000</td> </tr> <tr> <td>Tax revenues (payroll taxes)</td> <td>15,000</td> <td>34,000</td> </tr> <tr> <td>Health capital</td> <td>38,000</td> <td>74,000</td> </tr> <tr> <td>Social assistance</td> <td><1,000</td> <td>-2,000</td> </tr> <tr> <td>Subsistence benefits</td> <td><1,000</td> <td><1,000</td> </tr> <tr> <td>Unemployment allowance</td> <td><1,000</td> <td><1,000</td> </tr> <tr> <td>Unemployment insurance</td> <td><1,000</td> <td>1,000</td> </tr> <tr> <td>Disability benefit</td> <td><1,000</td> <td><1,000</td> </tr> <tr> <td>Pension</td> <td>-1,000</td> <td>-4,000</td> </tr> <tr> <td>Crime</td> <td>2,000</td> <td>3,000</td> </tr> <tr> <td>Total</td> <td>78,000</td> <td>157,000</td> </tr> </tbody> </table>	Type of cost	Discount rate 6 %	Discount rate 3 %	Earnings	23,000	49,000	Tax revenues (payroll taxes)	15,000	34,000	Health capital	38,000	74,000	Social assistance	<1,000	-2,000	Subsistence benefits	<1,000	<1,000	Unemployment allowance	<1,000	<1,000	Unemployment insurance	<1,000	1,000	Disability benefit	<1,000	<1,000	Pension	-1,000	-4,000	Crime	2,000	3,000	Total	78,000	157,000
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Total cost of ESL in the country	<p>This section is based on the figures identified above for each early school leaver. The figures below show:</p> <ul style="list-style-type: none"> • The cost of early school leaving for the society <i>if</i> the rate can be cut half from the current rate of 11.6% (in other words from around 1,450 to 725 persons per age cohort) • The benefits of cutting early school leaving by half from the current rate of 11.6%. <table border="1"> <thead> <tr> <th>Type of cost</th> <th>Discount rate 6 %</th> <th>Discount rate 3 %</th> </tr> </thead> <tbody> <tr> <td>Earnings</td> <td>16,500,000</td> <td>35,200,000</td> </tr> <tr> <td>Tax revenues (payroll taxes)</td> <td>11,000,000</td> <td>25,000,000</td> </tr> <tr> <td>Health capital</td> <td>27,600,000</td> <td>53,400,000</td> </tr> <tr> <td>Social assistance</td> <td>100,000</td> <td>-1,800,000</td> </tr> <tr> <td>Subsistence benefits</td> <td>200,000</td> <td>200,000</td> </tr> <tr> <td>Unemployment allowance</td> <td>0</td> <td>0</td> </tr> <tr> <td>Unemployment insurance</td> <td>300,000</td> <td>500,000</td> </tr> <tr> <td>Disability benefit</td> <td>100,000</td> <td>200,000</td> </tr> <tr> <td>Pension</td> <td>-500,000</td> <td>-2,800,000</td> </tr> <tr> <td>Crime</td> <td>1,400,000</td> <td>2,000,000</td> </tr> <tr> <td>Total</td> <td>56,600,000</td> <td>113,800,000</td> </tr> </tbody> </table> <p>If early school leaving could be cut half for one age cohort, the country would gain:</p> <ul style="list-style-type: none"> • About 0.7% of GDP, equalling to EUR 113.8 million (by using 3 % discount rate); and • About 0.35% of GDP, equalling to EUR 56.6 million (by using 6 % discount rate). <p>This means that(using 6 % discount rate):</p> <ul style="list-style-type: none"> • The additional earnings for this group of young people would be around EUR 16.5 million. • The net present value of payroll taxes for the government would be EUR 11.0 million. • Additional health benefits are valued at EUR 27.6 million. • Country would gain EUR 1.4 million from uncommitted crime • Country would benefit EUR 0.1 million from reduced social benefit costs. 		Type of cost	Discount rate 6 %	Discount rate 3 %	Earnings	16,500,000	35,200,000	Tax revenues (payroll taxes)	11,000,000	25,000,000	Health capital	27,600,000	53,400,000	Social assistance	100,000	-1,800,000	Subsistence benefits	200,000	200,000	Unemployment allowance	0	0	Unemployment insurance	300,000	500,000	Disability benefit	100,000	200,000	Pension	-500,000	-2,800,000	Crime	1,400,000	2,000,000	Total	56,600,000	113,800,000
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Other information / details on the cost of ESL	
Sources	Anspal, S. et al. (2011) <i>The cost of school failure in Estonia</i> . CENTAR, Eesti Rakendusuuringute Keskus.

Annex 3 Data on the cost of ESL in Finland

COUNTRY: Finland		
Definition(s)	The following calculations refer to the cost of social exclusion among young people, referring in particular to exclusion from employment	
Cost per early school leaver	Annual	Cost of social exclusion has been calculated at € 27,500 per year per young person
	Lifetime	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Costs to the State (welfare payments & support) € 400,000</p> </div> <div style="text-align: center;"> <p>Loss of income € 700,000</p> </div> </div> <div style="text-align: center; margin-top: 10px;"> <p>↓ ↓</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>Total cost of social exclusion per young person € 1.1 million</p> </div> </div> <p>The Finnish National Audit Office has calculated that social exclusion, on the basis that a young person is excluded from the labour market most of his/her life working life (around 40 years), costs around € 1.1 million per young person over the course of his/her life. Welfare and other support payments amount to around € 400,000, while the loss of income reaches € 700,000.</p>
Total cost of ESL in the country	N/A	
Other information / details on the cost of ESL	N/A	
Sources	National Audit Office (Valtiontalouden tarkastusvirasto) (2007), <i>Nuorten syrjäytymisen ehkäisy</i> . Toiminnantarkastuskertomus 146/2007. Valtiontalouden tarkastusvirasto, Helsinki. Ministry of Employment and the Economy (2009), <i>Nuoret miehet työelämään; mitä palveluja ja toimenpiteitä tarvitaan TE-toimistoissa</i> . Työ- ja elinkeinoministeriön julkaisuja. Työ ja yrittäjyys 34/2009	

Annex 4 Data on the cost of ESL in Hungary

COUNTRY: Hungary		
Definition	The calculation for the cost of per early school leaver is based on an estimation of the difference in income of the state in case of Roma students with primary level education and secondary level education (maturity examination).	
Cost per early school leaver	Annual	N/A
	Lifetime	In Hungary, the educational level of Roma population is much lower than that of the total population. Although dropping out of education during primary school is not a problem for the majority of Roma students, ESL is frequent among Roma students at secondary level. A research in 2006 calculated the amount of gains of higher education level of Roma students. According to this calculation schooling Roma children to a higher than primary level of education (the calculation counted with reaching maturity examination) would bring serious income gains for the state. Estimates put this gain of income between EUR 30,000 – 70,000 per person (calculated in current rate of exchange). The gains are consisted of taxes after income and consumption, and social security payments. There are other savings to be made too, those related to the cost of unemployment and offending.
Total cost of ESL in the country	N/A	
Other information / details on the cost of ESL	Although we do not have reliable information for a calculation of the cost of ESL, there are some studies in which we could find some kind of calculations for this question. These papers, made by economists, do not focus on costs, but instead have counted the gains (income) of higher schooling of Early School Leavers. For example a paper calculated different individual and social rates of return in case of those with primary, vocational and secondary levels of education in the period of 1999-2010. This paper has found that the individual rates of return was higher than the social one, and in case of those who had maturity examination the rate of return was 50-170% higher than those who had only primary level education .	
Sources	Kertesi Gábor - Kézdi Gábor (2006) <i>A hátrányos helyzetű és roma fiatalok eljuttatása az érettségihez</i> . BWP füzetek 6. MTA Közgazdasági Intézet.	

Annex 5 Data on the cost of ESL in Ireland

COUNTRY: Ireland		
Definition	Early school leavers – young people who have left the education system without a Leaving Certificate (the Leaving Certificate examinations are the final examinations in the Irish secondary school system and takes a minimum of two years preparation. Most students taking the examination are aged 16–19)	
Cost per early school leaver	Annual	N/A
	Lifetime	<div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p>Costs to the State (welfare payments)</p> <ul style="list-style-type: none"> • € 12,300 per male • € 16,300 per female </div> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px; display: inline-block;"> <p>Lost tax revenues</p> <p>€ 17,000 per early school leaver</p> </div> <div style="text-align: center; margin-bottom: 10px;"> </div> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p>Total cost of ESL per school leaver</p> <ul style="list-style-type: none"> • € 29,300 per male • € 33,300 per female </div> <p>These figures are regarded as under-estimates as health and crime related costs have not been considered, and further details on how these have been calculated can be found below.</p> <p><u>Direct costs to the State (in a form of welfare payments)</u></p> <p>The ‘costs’ refer to the cost of jobseekers allowance (a form of unemployment benefit in IE). The figures have been calculated by using the Living in Ireland data. Comparing the proportion of time in unemployment and assuming a 40 year working life, the authors estimate that an early leaver group spends 14 months more unemployed than those with a Leaving Certificate. Allowing for costs of € 204.30 per week (Jobseeker’s Allowance), on the basis of 2009 prices the differential cost over the life-time comes to € 12,300 per male early school leaver.</p> <p>Female early school leavers have been found to concentrate a significant share of lone mothers. Thus, taking into account payment of the One Parent Family Payment for 4 years, the authors estimated that the <i>lifetime welfare payment costs of a female early school leaver reach € 16,300</i> (€ 4,000 additional benefits for lone parents).</p> <p><u>Lost tax revenue</u></p> <p>Using National Employment Survey data and assuming a working week of 35 hours and a working life of 40 years, there is an estimated difference in life-time earnings between the early school leaver and Leaving Certificate graduate groups of € 84,500. <i>Allowing for a tax rate of 20% results in a tax revenue loss of € 17,000 per early school leaver.</i></p> <p><i>Source: Smyth, E. and McCoy, S. (2009), <u>Investing in Education: Combating Educational Disadvantage</u>, Economic and Social Research Institute, Dublin, 2009. Pages. 37-56 (summary on pages 55 & 56)</i></p>
Total cost of ESL in the country	N/A	
Other information / details on the cost of ESL	<ul style="list-style-type: none"> • Crime: A prison place cost € 97,700 per annum. For males aged 21 to 30 years, ESRI has estimated imprisonment rates of 46.6 per 1,000 early leavers and 1.6 per 1,000 Leaving Certificate leavers. Assuming each of those committed spends one year in prison, the potential difference in crime costs between early school leavers and school leavers with a Leaving Certificate amounts to just under €280 million. • Health: Health expenditure on early school leavers is higher than that on those that completed the Leaving Certificate; and ESRI has estimated € 280 million in crime costs could be saved by keeping children in school. • A 1999 study estimated that the savings of staying on in education over the initial post school period (6 years) amount to € 14 million. These costs relate to reduced state expenditure resulting from lower unemployment, lone parenthood and crime rates, but do not include health and housing costs, which would add to the potential savings. 	
Sources	Smyth, E. and McCoy, S. (2009), <u>Investing in Education: Combating Educational Disadvantage</u> , Economic and Social Research Institute, Dublin, 2009. Available from Internet: pages. 37-56 (summary on pages 55 & 56)	

Annex 6 Data on the cost of ESL in Norway

COUNTRY: Norway		
Definition	The study defines “drop out/early school leavers” as pupils who have failed to complete upper secondary education within a time period of five years.	
Cost per early school leaver	Annual	N/A
	Lifetime	N/A
Total cost of ESL in the country	<p>The study estimates the income effects on individuals and society at large and consequences for public expenditure on upper secondary education and social expenditure. Effects on crime and health are not included in the study.</p> <p>The study concludes that one extra drop out has a total societal cost of NOK 900,000 (around EUR 120,000). On the assumption that 6,000 more pupils complete upper secondary education (representing a reduced dropout rate by one third), the total societal costs would be reduced by NOK 5.4 billion (around EUR 723 million) per age cohort. The results are heavily dependent on the assumptions made in the calculations, primarily the size of private-economic income effect. Accordingly, the top estimate of reduced societal costs is NOK 8.8 billion (around EUR 1.2 billion), while the lower bound is NOK 1.1 billion (around EUR 146 million).</p>	
Other information / details on the cost of ESL	N/A	
Sources	Torberg Falch, Anne Borge Johannesen og Bjarne Strøm (2009) <i>Kostnader av frafall i videregående opplæring</i> , SØF rapport nr. 8/09, http://www.sof.ntnu.no/SOF%20R_08_09.pdf	

Annex 7 Data on the cost of ESL in the UK

COUNTRY: United Kingdom		
Definitions	<ul style="list-style-type: none"> All the figures relate to the cost of being NEET (young people Not in Employment, Education or Training), aged 16 and 18. 'Public finance costs' take into account tax and benefits, together with health, welfare and criminal justice expenditure. 'Resource costs' estimate the losses to the economy and to individuals and their families resulting from NEET and under- and unemployment following NEET. 	
Cost per early school leaver	Annual	N/A
	Lifetime	<p>Public finance costs</p> <ul style="list-style-type: none"> The average individual life-time public finance cost of NEET was estimated at around £ 52,000 (around € 60,900) in 2002. This has increased to a life-time public finance cost of an estimated £ 56,300 (around € 66,000) according to calculations made in 2009. <p>Resource costs</p> <ul style="list-style-type: none"> The average life-time resource cost stood at £ 104,300 in 2009 In 2002, this figure stood at £ 45,000
Total cost of ESL in the country	<p>Public finance cost of young people who are NEET Estimates vary from £ 12 billion to £ 32.5 billion in 2009. This represents a 44% rise in costs since 2002.</p> <p>Resource costs associated with NEET These estimates range from just under £ 22 billion to nearly £ 77 billion in 2009. The latest (2009) figures represent a 210% increase on 2002 estimates.</p> <p>The figures refer to young people who are NEET between the ages 16 and 18.</p>	
Other information / details on the cost of ESL	N/A	
Sources	<p>Coles et al., (2010), <i>Estimating the life-time cost of NEET: 16-18 year olds not in Education, Employment or Training</i>. Research Undertaken for the Audit Commission by University of York, 2010.</p> <p>Coles, B et al., (2002), <i>Literature Review of the Costs of Being 'Not in Education, Employment or Training' at Age 16-18</i>. Research report 347. University of York / University of Hull, 2002.</p>	

Annex 8 Data on the cost of NEET in the EU-21 (Eurofound)

Yearly cost of the NEET group / EU-21				
Country	Total resource costs (bn)	Total public finance costs (bn)	Total cost of NEET (bn)	Cost of NEET as share of GDP (%)
AT	€2.876	€0.235	€3.111	1.1 %
BE	€3.437	€0.734	€4.171	1.2 %
BG	€0.928	€0.006	€0.934	2.6 %
CY	€0.220	€0.009	€0.229	1.3 %
CZ	€1.699	€0.034	€1.733	1.2 %
DE	€13.850	€2.259	€16.109	0.7 %
EE	€0.231	€0.006	€0.238	1.5 %
ES	€10.472	€0.935	€11.406	1.1 %
HU	€1.580	€0.085	€1.665	1.6 %
IE	€3.335	€0.510	€3.845	2.1 %
IT	€26.327	€0.304	€26.631	1.7 %
LT	€0.258	€0.014	€0.272	0.8 %
LU	€0.123	€0.012	€0.135	0.3 %
LV	€0.313	€0.011	€0.324	1.4 %
NL	€4.497	€0.217	€4.714	0.8 %
PL	€5.020	€0.365	€5.386	1.5 %
PT	€1.844	€0.093	€1.937	1.1 %
RO	€1.170	€0.031	€1.201	0.9 %
SI	€0.339	€0.004	€0.344	0.9 %
SK	€0.553	€0.022	€0.575	0.9 %
UK	€14.817	€1.545	€16.363	0.9 %
EU21	€93.889	€7.431	€101.320	1.1 %
Source	European Foundation for the Improvement of Living and Working Conditions (2010), Young people and NEETs in Europe: First findings . Résumé. Page 5. DK,EL, FI, FR, MT and SE are excluded due to missing variables. The analysis was performed using the 2008 European Union Statistics on Income and Living Conditions (EU-SILC), which is the Eurostat representative annual cross-sectional and longitudinal survey on living conditions of the population in private households in Europe.			