Europe and Central Asia

Roma Inclusion: An Economic Opportunity for Bulgaria, Czech Republic, Romania and Serbia
Policy Note

Human Development Sector Unit
Europe and Central Asia Region

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Acknowledgements

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1. Introduction

1.1 **What is the *economic* rationale for Roma inclusion?** This report explores the question: "what is the *economic* argument for Roma inclusion?" The analysis is based on quantitative data from Bulgaria, Czech Republic, Romania, and Serbia, and information from interviews with 222 stakeholders – government and non-government officials and Roma and non-Roma. Seven household surveys for these four countries provided sufficiently rich information to make the economic calculations.[1] The four countries represent more than two-thirds of Roma in Central and Eastern Europe and the Balkans.

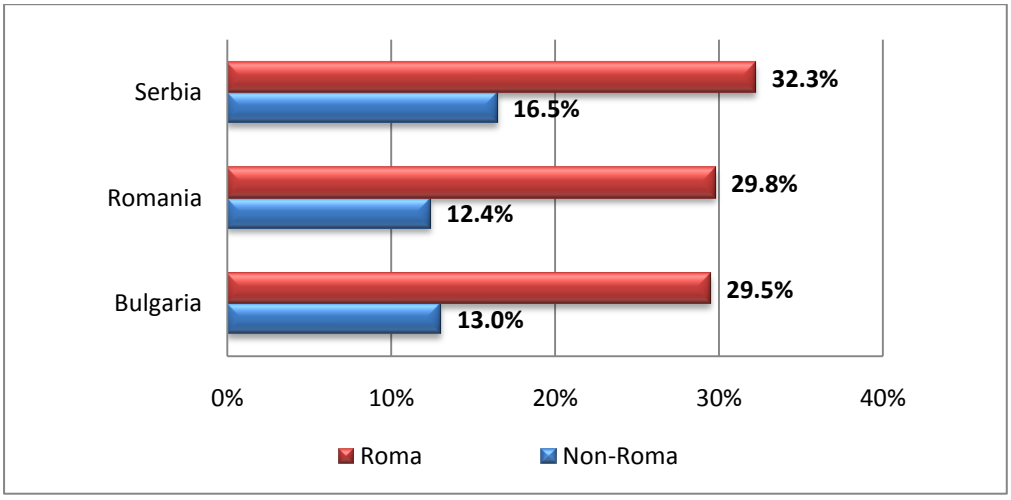
1.2 **Roma inclusion is smart economics, increasing GDPs by more than 3% and government budgets by more than 4% annually now – numbers that are increasing sharply given current population trends.** The focus of this report is on the economic benefits of Roma integration. In particular, it asks the question *How much larger would the economies be, and how much higher would government revenue be, if Roma enjoyed the same labor market opportunities as the majority populations?* The current labor market integration of Roma is poor. Equal labor market opportunities would generate more economic productivity and provide fiscal benefits in terms of lower government payments for social assistance such as guaranteed minimum income programs, and increased revenue from income taxes. Even lower bound estimates show that there are large economic and fiscal benefits. For the four countries, we estimate the economic benefits to be at least Euro 2 billion annually and the fiscal benefits to be at least Euro 700 million annually. These are lower bound estimates that rely on official population estimates, some from the 2001/2002 national censuses, which put the combined Roma population across these four countries at 1.1 million compared with 3.1 million according to commonly used estimates (e.g. UNDP, 2006). The latter population figures would suggest that the economic benefits from inclusion are at least Euro 5.5 billion annually and fiscal benefits at least Euro 1.8 billion annually for the four countries. This corresponds to productivity losses of 2,412 Euro per each working age Roma in Bulgaria, Euro 7,344 in the Czech Republic, Euro 2,596 in Romania, and 3,458 in Serbia. Further, estimates for Central and Eastern Europe and the Balkans region as a whole are Euro 3.4 to 9.9 billion annually in economic gains and Euro 1.2 to 3.5 billion annually in fiscal gains. These figures unequivocally support the words of one of the 222 stakeholders interviewed: "[the Roma] represent an opportunity, not a burden."

1.3 **Young Roma are entering labor markets at much higher rates than aging majority populations; 1 in 5 of new labor market entrants in Bulgaria, Romania, and Serbia are Roma.** The challenges posed by the very large gap in labor market outcomes are

[1] These require information on employment status, wages, taxes, and social assistance.

compounded by the countries' demographic trends. Since majority populations are declining and elderly populations increasing throughout much of Central and Eastern Europe and the Balkans, this raises the question: "who will pay for pensions, health care, infrastructure, etc.?" Increasingly so, the answer to this question will be: young Roma men and women. For example, as shown in figure 1 below, young Roma aged 0-15 years old – the next generation of working-age people – make up 32.3% of the Roma population in Serbia. Among the majority population in Serbia, this same age group makes up only 16.5% of the (majority) population. Similarly for Romania and Bulgaria[2]. Hence, Roma are entering the labor market at relative rates that are 2-2.5 times higher than that of majority populations. This implies that 12% of new labor market entrants in Serbia are Roma, 21% in Romania, and 23% in Bulgaria. Unless Roma employment and wage rates substantially improve, a smaller working age population in which many Roma are without jobs will not be able to carry this rising fiscal burden.

Figure 1. Proportion of Respective (Roma, non-Roma) Populations 0-15 years old.



Source: 2010 Crisis Monitoring Survey (WB and OSI), 2008 Romania Family Budget Survey (NIS), 2009 Labor Force Survey (SORS); Authors' calculations.

1.4 **Apart from national resources, EU structural funds are an important financing source for programs and projects that foster Roma inclusion.** In line with Common Basic Principle Two, "explicit but not exclusive" targeting, the European Commission works to mainstream Roma inclusion into all EU policies, for example in such initiatives as Youth in Action and Lifelong Learning Programmes. This mainstreaming approach allows the Commission to support activities through a variety of EU funding mechanisms. Particularly relevant are the European Social Fund (ESF) and the European Regional Development Fund (ERDF) which together fall under the EU Structural Funds umbrella, and make available billions of Euros to member states that can be used for Roma inclusion (EC, 2010).

[2] The Czech Republic is excluded because, as discussed below, the Roma sample is not nationally representative.

1.5 **The main goal of this report is to inform the public policy debate on the benefits of Roma inclusion through quantitative analysis and by bringing in the reflections of stakeholders in the region.** In addition, it also offers some policy suggestions on how economic inclusion can be achieved. In the remainder of this report, we first explore the extent of the economic exclusion in terms of poverty, labor market outcomes, and education outcomes, and reflect on discrepancies between public perceptions and the actual situation of Roma. We then turn to the analysis on the economic and fiscal benefits that come from inclusion into the labor market. We finally explore several policy options that can promote labor market inclusion, both in the short- and long-run. This report relies on a combination of nationally representative household survey data from Bulgaria (2007, 2010), Romania (2008), and Serbia (2007, 2009), while the Czech survey data (2008) were representative for Czech Roma living in marginalized localities[3]. In addition, this report includes the findings from consultations with 222 stakeholders in the four countries with whom the preliminary findings of this study were shared (Table 1 in the appendix).

1.6 **The goal of the qualitative interviews was to get opinions from a broad spectrum of stakeholders.** About one-third of stakeholders interviewed were central and local government officials, and the remainder representatives of civil society, education, and media. Approximately 4 out of 10 self-identified as being Roma. These stakeholders were interviewed in June-July 2010. Line ministries and civil society organizations were contacted and sent a copy of the preliminary findings of this study, and were invited to fill out an anonymous online questionnaire (see appendix for more detailed results). In-depth personal interviews were carried out with nearly half the participating stakeholders.

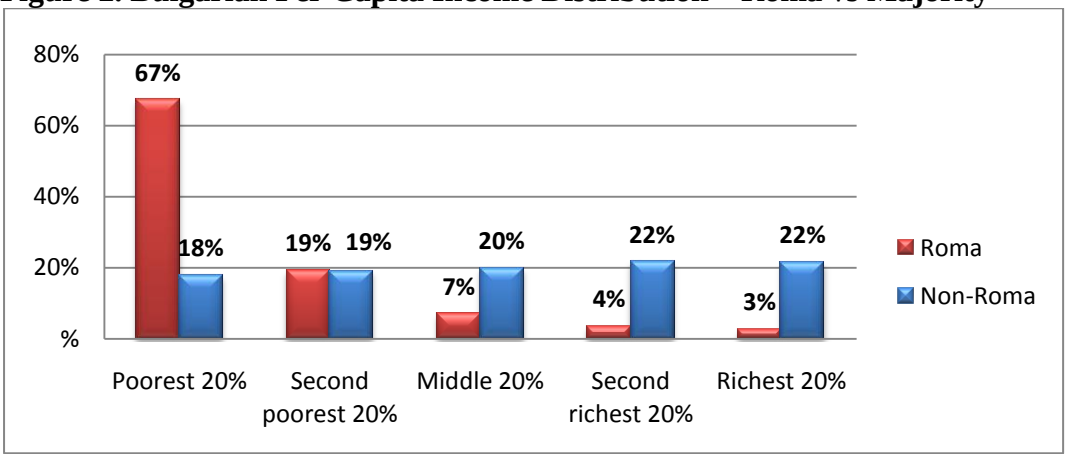
2. Roma Exclusion

2.1 **More political attention in recent years has not yet translated into notable improvements in the day-to-day lives of most Roma.** In recent years, action, attention to, and coordination on Roma inclusion has improved, particularly since the 2005 inauguration of the Decade of Roma Inclusion and the first EU expansion into Central and Eastern Europe (CEE) in 2004. However, poverty levels among Roma remain very high. In Bulgaria in

[3] The household datasets were collected by the national statistical agencies and the World Bank, in part in collaboration with the Open Society Institute. For Bulgaria we used the Multi-Topic Survey (World Bank, 2007) and the Crisis Monitoring Survey (World Bank and OSI, 2010); for the Czech Republic the Roma Labor Force Survey (Govt of CZ and World Bank, 2008), and the Czech Republic Labor Force Survey and Household Budget Survey (Czech Statistical Office, 2008); for Romania the Family Budget Survey (Romanian National Institute of Statistics, 2008); and, for Serbia the Labor Force Survey (Serbia Statistical Office, 2009) and the Living Standards and Measurement Survey (World Bank, 2007)

March 2010, for example, nearly 9 out of 10 Bulgarian Roma experienced per capita incomes that were equal to the incomes experienced by the poorest four-tenths of the Bulgarian population, with 67% of Roma being among the poorest 20% of all people in Bulgaria (figure 2). Such poverty levels are similar in the other countries. For example, in Romania in 2008, 68% of Roma lived with per capita incomes equivalent to those of the poorest 40% of people in Romania and nearly two-thirds of Roma in Romania reported not being able to buy enough food compared to one-third of the majority population. In Serbia in October 2009, as many as 93% of Serbian Roma were among the poorest 40% of the Serbian population. These poverty levels are rooted in extraordinarily poor labor market outcomes. Few Roma have jobs, and even when they do, earnings are often low.

Figure 2. Bulgarian Per Capita Income Distribution – Roma vs Majority



Source: 2010 Crisis Monitoring Survey (WB and OSI); Authors' calculations.

Labor Market Exclusion

2.2 **The employment rates fall well behind those of the majority in all countries but Romania**, **especially among women.** Figures 3a and 3b show the employment rate for the working age population (15-64 year old) in the four countries. This includes all types of work, including informal employment. The lowest employment rate among Roma men is found in Bulgaria and Serbia, where only a third of Roma men work compared to almost two-thirds of men from the majority populations. At 55%, the employment rate among Czech Roma men (living in marginalized localities) is considerably higher, although still ten percentage points below the employment rate of the majority men. The highest employment rate is found among Roma men in Romania where 69% work, which is nearly identical to the majority population. Roma women are even less likely to have jobs. The employment rates of Roma women in all four countries falls far short from the employment rate among women of the majority populations. As with men, Roma women in Romania experience the highest employment rate. However, still a mere 31% are employed, 24 percentage points below the employment rate of women from the majority population. In the Czech Republic and

Bulgaria less than a quarter are working compared to 47% of Czech and 58% of Bulgarian women from the majority populations. The lowest employment rate is found in Serbia: only 9% of Roma women work compared with 43% of majority Serbian women.

Figure 3a: Male Employment Rate

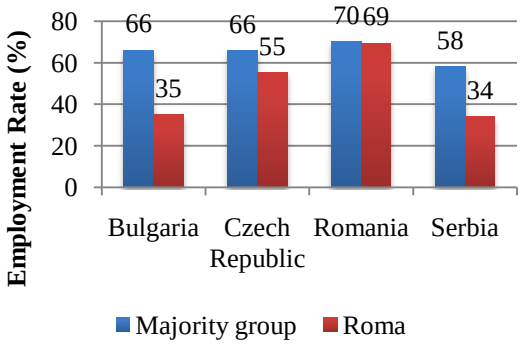
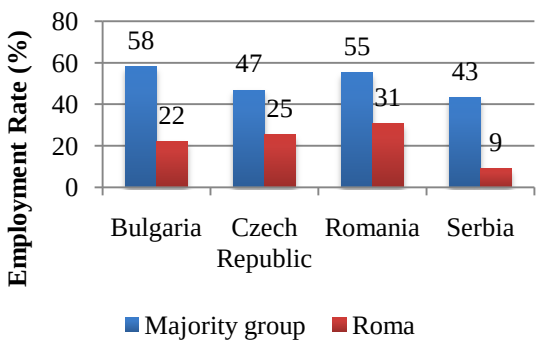


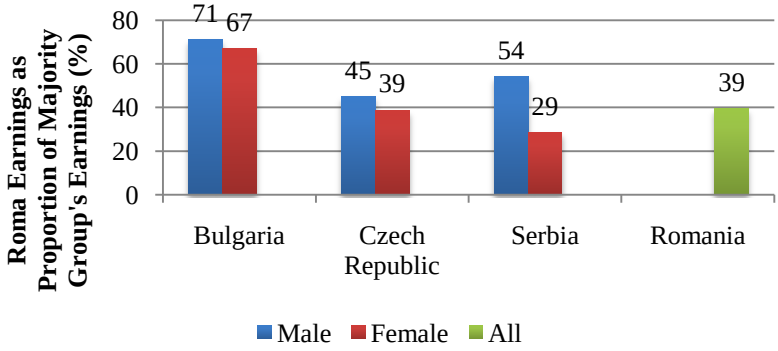
Figure 3b: Female Employment Rate



Sources: 2010 Crisis Monitoring Survey (WB and OSI), 2008 Roma Czech Republic Labor Force Survey (WB), 2008 Czech Republic Labor Force Survey (CSO), 2008 Romania Family Budget Survey (NIS), 2009 Labor Force Survey (SORS); Authors' calculations.

2.3 **In addition to low employment, labor earnings among Roma with jobs, women especially, are also significantly lower.** Figure 4 shows the average earnings of employed Roma as a proportion of the average earnings of employed members of the majority populations. For men, the highest relative rate is found in Bulgaria (which had the lowest employment outcomes after Serbia); employed Bulgarian Roma men earn nearly one third less than men from the majority population. In Serbia, Roma men earn slightly more than half, while Roma men in marginalized localities in the Czech Republic earn only 45% the amount that majority men earn. For Romania, unfortunately, we cannot distinguish between men and women with regards to labor earnings since this variable is measured at the household level. However, on average across men and women, we find that labor earnings for individual employed Roma in Romania are a mere 39% of the labor earnings for employed non-Roma. With regards to Roma women, they not only have the lowest employment rates, but the labor earnings among those Roma women working are also much lower. In Bulgaria, the wage gap is similar for women as for men; employed Roma women can expect to earn about one-third less than employed majority women. In the Czech Republic, these relative labor earnings are only 39%, and in Serbia only 29%.

Figure 4: Average Earnings, Roma and non-Roma, Conditional on Employment

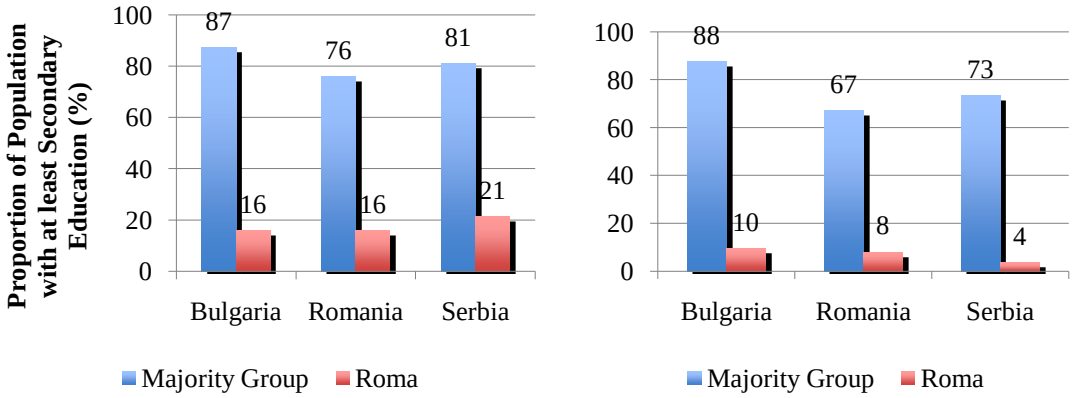


Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Czech Republic Household Budget Survey (CSO), 2007 Serbia LSMS (WB), 2008 Romania Family Budget Survey (NIS); Authors' calculations.
Note: Net earnings for Bulgaria, Czech Republic and Serbia; gross earnings for Romania.

Education Gap

2.4 **The poor labor market outcomes can in large part be explained by the very large education gap between Roma and non-Roma, especially among women.** In the Czech Republic, we find that only 2 in 10 Roma living in marginalized localities have some formal training or secondary education, and this is the highest rate among the four countries considered. Figure 5 compares the proportion of Roma men and women in the working age population with non-Roma having completed at least secondary education, including vocational or technical training. The education levels among working age Roma men are very low. In Bulgaria, Romania and Serbia at least 4 out of 5 working age men in the majority population completed secondary education in contrast to at most 1 in 5 Roma men. Education levels among women are even lower. While at least 7 in 10 women from the majority populations completed secondary or tertiary education, no more than 1 in 10 Roma women did. In Serbia, the country with the worst labor market outcomes for Roma women, the proportion is a mere 4%. There is some evidence that enrolment rates are increasing, but not nearly fast enough.

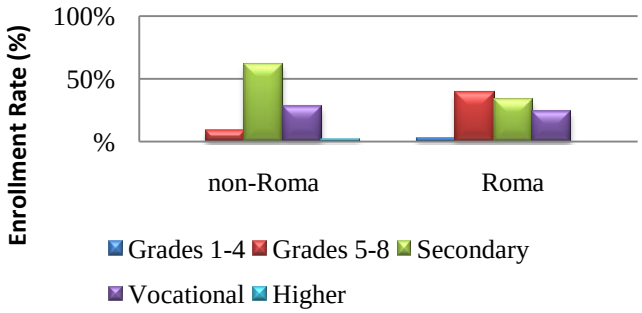
Figure 5: Proportion of Working Age Population with at Least Some Secondary Education: (a) Male, (b) Female



Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Romania Family Budget Survey (NIS), 2007 Serbia LSMS (WB); Authors' calculations.

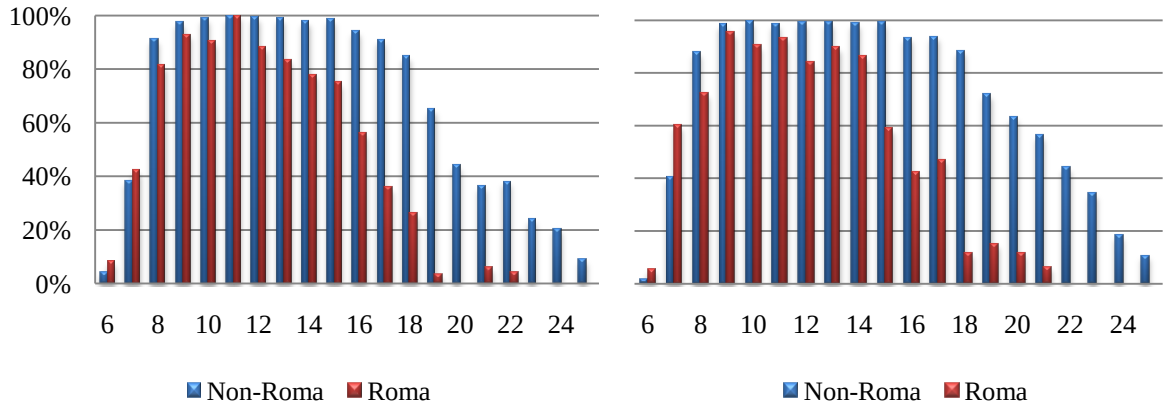
2.5 **The most recent education trends among young Roma are better than historic trends, but nonetheless hardly encouraging.** In Bulgaria in 2010, among 15-18 year olds approximately half of Roma men and one-third of Roma women were still enrolled in school (compared with 9 out of 10 from the majority population). As shown in Figure 6, among those Roma 15-18 year old still enrolled in school, slightly more than half were in either secondary school or vocational schools, with the remainder still in primary. In fact, among all 15-18 year old Roma, 23% of males and 24% of females were enrolled in a secondary institution (including vocational). Assuming that these rates reflect secondary completion rates (some will undoubtedly drop but others still in primary may continue with secondary), this would mean an increase of 7 percentage points for men and 14 percentage points for women over historic rates. In Romania, enrolment data show that the vast majority of young men and women are enrolled until age 14 followed by a sharp drop, especially for women (Figures 7a (males) and 7b (females) below). The sample size is large enough to look at age specific enrolment rates. At age 17, approximately 40% of Roma men and women are still enrolled, which is an improvement from the past. This enrolment pattern suggests that primary completion may be on the rise but that secondary completion will continue to lag behind, especially considering that a substantial proportion of those enrolled is likely still in primary school.

Figure 6. Bulgaria Enrolment Rate for 15-18 Year-Old Population by Type of School.



Source: 2010 Crisis Monitoring Survey (WB and OSI, 2010); Authors' calculations.

Figure 7a and b. Romania Enrolment Rate by Age: Males and Females



Source: Family Budget Survey (2008, NIS); Authors' calculations.

Discrimination

2.6 **This study finds that around one-third of the wage gap between Roma and majority populations can be attributed to discrimination and other factors beyond differences in education, experience, and locality.** Many stakeholders argued that education alone would not be sufficient for successful labor market integration of the Roma minority. The issues of stigma and discrimination often came up during the interviews, pointing to the multi-dimensional character of Roma exclusion. A common method to study the nature of wage gaps is the Oaxaca-Blinder decomposition, which divides the gap into a productivity or skills part and into a residual part (box 1). In Bulgaria, for example, we find that Roma-non-Roma differences in education, work experience, and locational characteristics can explain between 63% and 81% of the male wage gap, and between 59% and 64% of the female wage gap. In Serbia, we find that productivity differences account for between 43% and 64% of the wage gap. In comparison, a 2002 study by the World Bank found that differences in background characteristics accounted for 63% of the Roma-non-Roma gap in household expenditures in Hungary, Bulgaria, and Romania. A study by O'Higgins (2009) using nine country data from 2004 finds that differences in Roma-non-

Roma background characteristics account for 61% of the wage gap for males and 87%, for females. In short, a considerable proportion of the earnings gap between Roma and non-Roma remains unexplained by differences in observed background characteristics. Whether this is due to differences in the *quality* of education, discrimination, or other characteristics that cannot be controlled for in the analysis is not clear. It does highlight the difficulty Roma experience in finding jobs that are well paid, even conditional on education, experience, and locational characteristics.

Box 1: Oaxaca-Blinder wage gap decomposition

A common method to study the nature of wage gaps is the Oaxaca-Blinder decomposition, which divides the gap into a productivity part and into a residual part. The productivity gap is also called the *explained* component because it is due to differences in personal characteristics - so called endowments - that affect productivity. The *residual* is the part of the gap that is often associated with discrimination towards one of the groups, although technically the residual part is simply that part of the gap that cannot be explained by the personal characteristics available to the researcher in the household data.

For example, using U.S. data from 1967, the original Oaxaca (1973) study finds that the explained component is 42% of the earning gap between white males and females and 44% of the white-black wage gap, while the original Blinder (1973) study finds that it accounts for only 30% of the male white-black gap. More recently, using 1988 US data, Oaxaca and Ramson (1994) find that the proportion of the black-white wage gap due to the explained component lies between 39% and 47%. Note that this is well below the Roma-non-Roma findings.

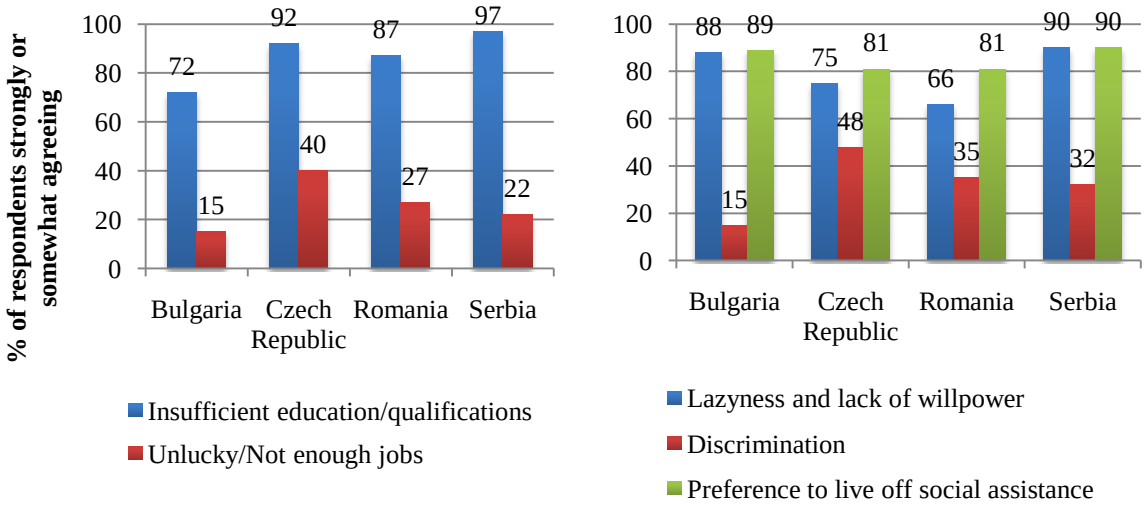
Facts Do Not Match Public Perception

2.7 **Public perceptions about Roma run deep.** According to the vast majority of stakeholders in each of the countries, the general public correctly recognizes that lack of education is a key reason for Roma unemployment.[4] As shown in Figure 8a, 9 out 10 stakeholders in the Czech Republic, Romania, and Serbia gave this perspective, and 7 out of 10 in Bulgaria. Few believe that the general public considers that Roma are unlucky enough to find jobs. But according to the vast majority of stakeholders, there is also a widespread perception among the general public that Roma do not have jobs because "they prefer to live off social assistance" and even because "they are lazy and lack willpower", while only few believed that the general public sees discrimination as a key obstacle, with the lowest in Bulgaria (15% of stakeholders) and the highest in the Czech Republic (48% of stakeholders).

[4] The stakeholders that were interviewed were asked to share their views on what they believed the average person from the majority sees as the reasons for low Roma employment. The question provided five possible non-mutually exclusive reasons. The reasons given were: (1) unlucky – not enough jobs; (2) lazy and lack of willpower; (3) face discrimination; (4) lack sufficient education or qualification; (5) prefer to live off social assistance.

Many stakeholders shared this public perception, as illustrated by comments from stakeholders such as: "*over 50% of social protection recipients are Roma*" and "*about 70 percent of the Roma population are users of MOP [family subsistence program] at the centers for social work.*"

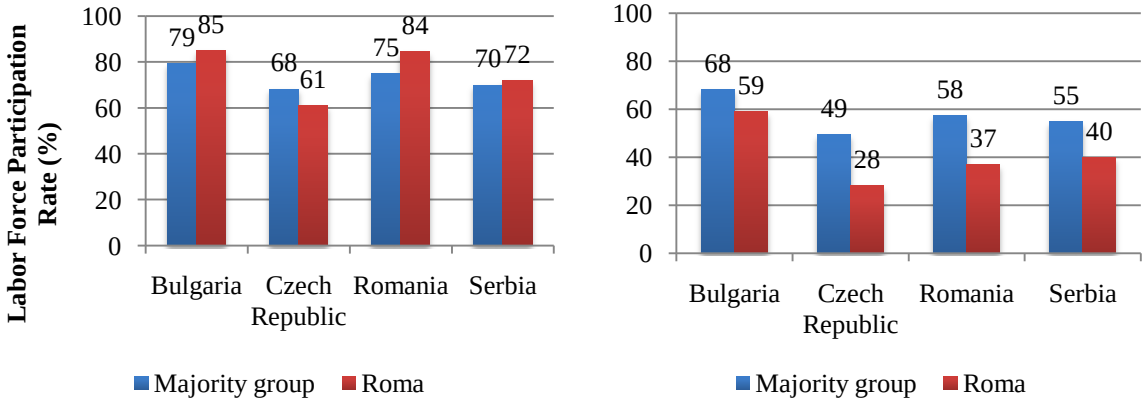
Figure 8a and b: Reasons for Roma Unemployment



Source: 2010 Roma Stakeholder Survey (WB): Authors' calculations.

2.8 **But such public perceptions do not match with facts. First, Roma want to work, but many cannot find jobs.** Roma labor force *participation* rates strongly contradict laziness and welfare dependency perceptions, especially among men. Measuring the proportion of the working age population either employed or unemployed but willing and looking to work, the labor force participation rate for working-age Roma men *exceeds* the rate for men from the majority populations in Bulgaria, Romania, and Serbia (Figure 9). Only in the Czech Republic is the rate among Roma lower, by 7 percentage points. Labor force participation rates among Roma women are lower than labor force participation rates among non-Roma women, but still considerably higher than actual employment rates, especially in Bulgaria where 59% of Roma women are in the laborforce but only 22% actually work, and in Serbia where 40% are in the laborforce but only 9% actually work. Hence, while Roma are *willing* to work, often they cannot find jobs. For women, a staggering 39 percent of those looking for jobs remain unemployed, and for men 20 percent looking for jobs remain unemployed.

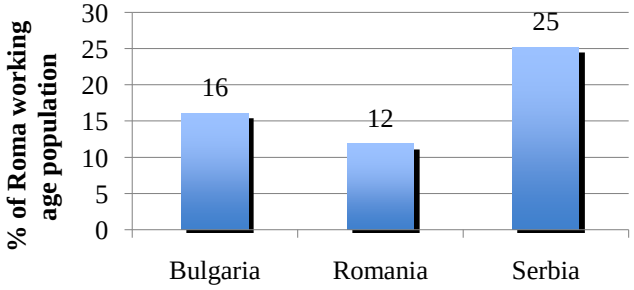
Figure 9: Labor Force Participation Rate: (a) Males and (b) Females



Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Roma Czech Republic Labor Force Survey (WB), 2008 Czech Republic Labor Force Survey (CSO), 2008 Romania Family Budget Survey (NIS), 2009 Labor Force Survey (SORS); Authors' calculations.

2.9 **Second, only a minority of Roma have access to social assistance.** Recall that the majority of Roma are among the poorest people in the populations for each of the countries. Yet, despite their poverty levels, it is a misperception that the majority of Roma live off social assistance (Figure 10). In Bulgaria 16% and in Romania 12% of working age Roma individuals receive guaranteed minimum income support, while in Serbia a quarter of Roma households receive this support. To summarize, working-age Roma want to work, but have much lower levels of education than non-Roma and have much greater difficulty finding work. They also earn much lower wages when they do find work. Roma women especially have very low employment rates. With few jobs and low earnings, income tax payments are lower and, unsurprisingly, social assistance payments are higher.

Figure 10: Proportion of Working Age Roma Receiving Guaranteed Minimum Income



Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Romania Family Budget Survey (NIS), 2007 Serbia LSMS (WB); Authors' calculations. Bulgaria and Romania: individual level data; Serbia: household level

3. The Economic Argument for Roma Inclusion

3.1 **In quantifying the benefits of Roma inclusion, we distinguish economic and fiscal benefits.** First, we calculate how much greater the economies would be as a result of Roma enjoying equal labor market opportunities. We call these opportunity costs the *economic benefits* of labor market inclusion. Second, we estimate how much current government revenues would increase if Roma enjoyed equal labor market opportunities as non-Roma in their countries. We call these opportunity costs the *fiscal benefits* of labor market inclusion. We calculate both a lower and an upper bound of these benefits corresponding to the official Roma population estimates and the commonly accepted estimates by Roma experts, respectively (Box 2). In both cases, however, the benefits are conservative estimates: they do not take into account (a) that the share of Roma in the working age population will continue to grow; (b) benefits in terms of economic growth dynamics; and (c) other behavioral benefits such as reduced risky health behavior and lower risk of crime driven by social exclusion and poverty.

Box 2: Roma Population Estimates

According to national census data from 2001 and 2002, there were 370,000 Roma living in Bulgaria, 11,000 in the Czech Republic, 535,000 in Romania, and 108,000 in Serbia.

Other estimates place the number of Roma living in these countries from two to four times higher: between 700,000 and 800,000 individuals in Bulgaria; approximately 250,000 in the Czech Republic; between 1.8 and 2.5 million in Romania; and between 450,000 and 500,000 in Serbia (UNDP, 2006). The Czech data in this paper are representative for an estimated 70,000 Roma living in marginalized localities (Roma CZ LFS, 2008).

Economic Benefits of Labor Market Inclusion

3.2 **Equal employment opportunities would generate substantial economy wide productivity gains.** To estimate these, we must compare the labor market productivity of the average working age Roma with the average working age non-Roma. Productivity differences are proxied by calculating the average earnings gap between the two groups[5]. In particular, we must identify what each can expect to earn in (gross) terms given (1) the probability of employment, and (2) the average wage conditional on employment. The difference between the average expected earnings for Roma and non-Roma is the average earnings gap per working age individual. We must also include an estimate of the loss in

[5] For a detailed description of the methodology, see *appendix: technical note*.

profit that capital owners experience as a result of the reduction in labor output to calculate the total foregone economic output per working age individual.[i] Using data on the labor share of total economic output (OECD, 2008), and comparing the labor profile of the average working-age Roma with that of the average working age non-Roma from the majority population, we can calculate the total productivity loss per individual. Multiplying this with the number of working-age Roma gives the aggregate productivity loss for the economy as a whole.

3.3 **We illustrate these calculations using Bulgaria as an example**.[6] First, according to the household data in 2007, and taking into account the employment probabilities, the average working age Bulgarian Roma man could expect labor income (*net* of payroll taxes, social protection contributions and income taxes) of 1,012 Euro per year, while the average working-age majority Bulgarian man could expect 2,070 Euro. Corresponding figures for women were 402 Euro and 1,310 Euro per year. Thus, the annual individual net income loss in 2007 was 1,058 Euro for men and 908 Euro for women. Total output productivity loss was higher, however, because *gross* labor income should be considered and because the capital share of income needs to be accounted for.[7] Assuming that the labor income share[8] in 2007 was 56.6% (OECD, 2008), and that capital productivity was the same across ethnic groups, total productivity loss in 2007 was 2,596 Euro per working age Roma man and 2,227 Euro per Roma working age woman.

Table 2: Employment Characteristics, Bulgaria, 2007

Bulgaria 2007	Non-Roma		Roma	
	Male	*Female*	*Male*	*Female*
Labor force participation rate	79.40	68.2	84.8	59.2
Unemployment Rate	9.3	10.7	40.5	53.4
Employment rate	75.2	65.7	51.9	30.2
Annual *net* wage if working	€ 2,743	€ 1,990	€ 1,947	€ 1,329
Average annual *net* wage	€ 2,070	€ 1,310	€ 1,012	€ 402

Source: 2007 Multi-Topic Bulgaria Survey (WB); Authors' calculations.

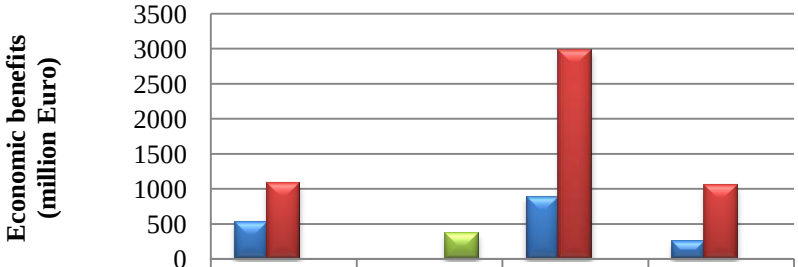
[6] All calculations are based on the 2007 Multi Topic household data.

[7] The 2007 World Bank Multi-Topic Survey asked respondents their net income, while to retrieve the total output loss is necessary to calculate gross wage. Bulgarians are subject to a flat-tax rate t_i of 10% on their income; besides, employers have to deduct a payroll tax (whose rate is between 19.9% and 20.4%) used to finance welfare contributions from their employees (World Bank, 2010). Assuming that all respondents are subject to both the 10% income tax rate and a 20% payroll contribution tax, gross wages are found dividing the value of net wage by the product between $(1\text{-}t_{PAYROLL})$ and $(1\text{-}t_{INCOME})$.

[8] The labor share of income was calculated as the ratio *c* between total labor cost and real output, whereas the former is the sum of all gross wages in the Bulgarian economy. Thus, total output is calculated diving the value of gross wage by the labor share of output.

3.4 **Aggregate economic benefits are substantial across the four countries**. Assuming an equal number of working-age Roma men and women – the total productivity gains from equal labor market opportunities in Bulgaria in 2007 were between 526 million Euro and 1.07 billion Euro, depending on the total Roma population estimate used. For Romania, the economic benefits ranged between 887 million Euro to 2.9 billion Euro in 2008, and 252 million Euro to 1 billion Euro in Serbia in 2007. For the Czech Republic, equal labor market opportunities for the estimated 70,000 Roma living in marginalized communities would generate 367 million Euros in economic benefits in 2008 (Figure 11).

Figure 11: Economic Benefits of Inclusion



	Bulgaria ('07)	Czech Republic ('08)	Romania ('08)	Serbia ('07)
Lower population est.	526		887	252
Higher population est.	1070		2980	1048
Marginal CZ Localities		367		

Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Roma Czech Republic Labor Force Survey (WB), 2008 Czech Republic Labor Force Survey (CSO), 2008 Czech Republic Household Budget Survey (CSO), 2008 Romania Family Budget Survey (NIS), 2007 Serbia LSMS (WB); Authors' calculations.

3.5 **An estimate of the combined economic benefits for Central and Eastern Europe and Balkans (CEB) as a whole is Euro 3.4 – 9.9 billion annually.** Recall that the four countries represent more than two-thirds of the Roma population in the CEB region; approximately 74% if official estimates are used and 70% according to commonly used population estimates. We can use the Roma population estimates together with the four-country economic benefit estimates to approximate the economic benefits across Central and Eastern Europe and the Balkans (CEB).[9] We find that the economic benefits for the other countries in this region would be in the order of Euro 1.4 billion using the low official population estimates, and Euro 4.4 billion using the higher commonly used Roma population

[9] For the four countries, the economic benefits are equal to 0.39 (Bulgaria), 0.44 (Czech Republic), 0.25 (Romania), and 0.54 (Serbia) of 1 percent of GDP for each percent that the Roma population constitutes in the populations of these countries as a whole; i.e. on average 0.41 for each percent across the four countries. For example, for Bulgaria, the low population estimate is that Roma constitute 4.68% of the Bulgarian population. The economic benefits corresponding to this low population estimate constituted approximately 1.8% of GDP (and double using commonly accepted numbers), or *0.39* x 4.68%.Using country specific GDP figures (WB, 2010) and applying the 0.41 average value to the Roma population estimates as a share of the total populations in Hungary, Slovakia, Albania, Bosnia and Herzegovina, Croatia, Kosovo, FYR Macedonia, and Montenegro

estimates; in other words, an estimate for the combined economic benefits are Euro 3.4 – 9.9 billion annually for Central and Eastern Europe and Balkans[10].

Fiscal Benefits of Labor Market Inclusion

3.6 **Roma inclusion would also generate considerable fiscal benefits, primarily through higher revenues from taxes on wages.** A fiscal analysis requires examining how both the government revenue and expenditure sides would improve if the employment rate and average wages for Roma were the same as for majority populations. Using the information on employment, wages, and social assistance, we can calculate the combined fiscal revenues that the government foregoes as a result of the current labor market exclusion.[11,12,13]

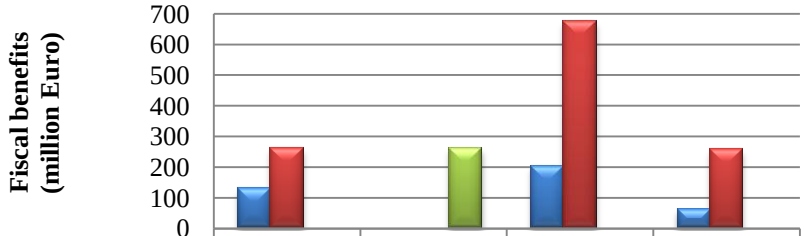
3.7 **We demonstrate the fiscal benefits calculations using the 2007 Serbia household data.** We can calculate the foregone government revenues using information on employment probabilities and income tax conditional on having a job. The expected income tax payments by working age Serbian Roma was 226 Euro per year, while it was 744 Euro for working age majority Serbians, a difference of 518 Euro. In addition, the capital income loss due to lower productivity among Roma also implied a corporate tax revenue loss. Given an average corporate tax rate of 10% (World Bank, 2010)[14], the Serbian government forewent approximately 159 Euro compared to working age non-Roma. Adding these two up, it means that the higher tax benefit of equal labor market opportunities would have generated 677 Euro per working age Roma in 2007.[15] On the government expenditure side, we need to estimate the difference between the social protection payments toward Roma and toward majority non-Roma. A simple calculation taking into account the Roma population share in Serbia suggests that in 2007 between 6% and 21% of all Serbian households receiving social protection were Roma households, depending on the Roma population estimate used. Further, social protection payments to working age Roma were 171 Euro higher per year than to non-Roma; retirement pensions are excluded. Depending on the estimate of the size of the Roma

[10] Of course, the accuracy of these estimates depends on the similarity between Roma exclusion in the four countries for which we have sufficiently detailed data and the other group of countries. Research by, for example, UNDP (2006), suggests that this is the case.
[11] We are assuming all welfare receipts are received by working-age individuals rather than children and the elderly; hence, there might be a slight bias in the estimation.
[12] The costs associated with social protection expenditure on Roma children and elderly are not considered in this analysis.
[13] For a detailed summary of the methodology, please see the appendix
[14] The average tax rate used here are estimated by the World Bank Doing Business project using the methodology developed in Djankov et al. (2009). Estimates on the 2010 report refer to the 2007 fiscal year.
[15] In this estimation, we are excluding any second-order effect, such as revenues from consumption taxes deriving from higher income.

population, this implies between 12.5 and 52.4 million Euro in higher social protection expenditures at the aggregate level.

3.8 **These figures imply that government revenues for the countries covered by this report would have been substantially higher if Roma were not excluded from the labor market.** For example, for Serbia, summing the cost on both the revenue and the expenditure side leads to combined fiscal losses of 848 Euro per working age Roma in 2007. Across all working-age Roma in Serbia, this means that the Serbian government would have between 61.9 and 257 million Euro in extra revenue to invest every year had Roma experienced equal labor market opportunities. This represented between 1.06% and 4.41% of the final government expenditure in 2007 (SORS). Similarly for the other countries we find that government revenues would have been substantially higher: between 128 and 260 million Euros in Bulgaria, between 202 and 675 million Euros in Romania, and 260 million Euros considering the estimated 70,000 Roma living in marginalized localities (Figure 12).[16]

Figure 12: Fiscal Benefits of Inclusion



	Bulgaria ('07)	Czech Republic ('08)	Romania ('08)	Serbia ('07)
Lower population est.	128		202	62
Higher population est.	260		675	257
Marginal CZ Localities		260		

Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Roma Czech Republic Labor Force Survey (WB), 2008 Czech Republic Labor Force Survey (CSO), 2008 Czech Republic Household Budget Survey (CSO), 2008 Romania Family Budget Survey (NIS), 2007 Serbia LSMS (WB); Authors' calculations.

3.9 **An estimate of the combined total annual fiscal benefits is Euro 1.2 – 3.5 billion for Central and Eastern Europe and Balkans (CEB) as a whole.** We find that the fiscal benefits for this group of countries would be in the order of Euro 500 million using the low official population estimates, and Euro 1.6 billion using the higher commonly used Roma population estimates[17]; in other words, the combined total fiscal benefits are Euro 1.2 – 3.5 billion annually for Central and Eastern Europe and Balkans.[18]

[16] Tables summarizing the economic and fiscal calculations for each country are provided in the appendix.
[17] This estimate is based on the same calculation as with the economic benefits for the region. For the four countries, the fiscal benefits are equal to 0.09 (Bulgaria), 0.31 (Czech Republic), 0.06 (Romania), and 0.13 (Serbia) of 1 percent of GDP for each percent that the Roma population constitutes in the populations of these

3.10 **The fiscal benefits alone far outweigh the investments of closing the education gap between Roma and non-Roma.** How "much" are these fiscal benefits? To put these in perspective, suppose that it would cost 50 percent *more* per Roma pupil than per non-Roma pupil to ensure that Roma children would have the same educational attainment at all levels as the majority populations. Even with such a conservative assumption, the necessary investments needed to close the education gap would only be approximately 30 percent of the amount of fiscal benefits from equal labor market opportunities across the four countries.[19]

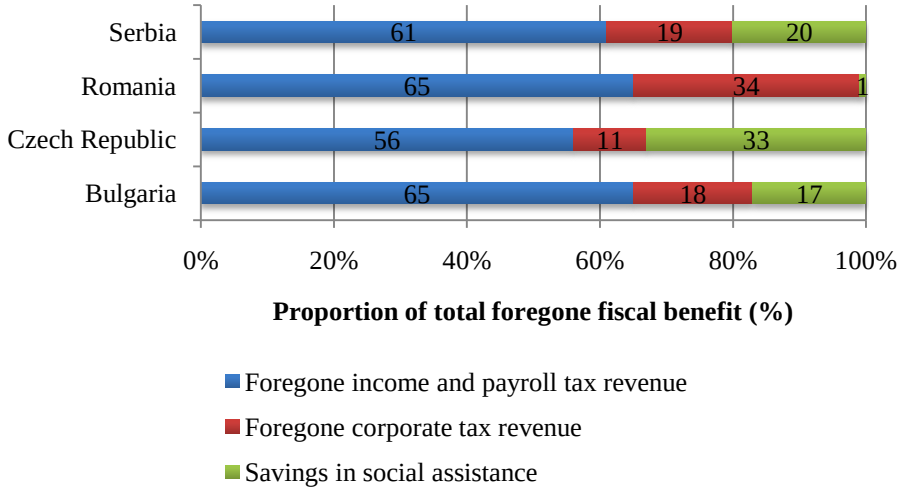
3.11 **Finally, as highlighted previously, the reduction in social assistance spending is only a small part of the fiscal benefits from labor market exclusion across all four countries.** As shown in the figure below, the vast majority of the fiscal losses in Serbia came from foregone payroll and income tax revenues, which amounted to Euro 518 per person, or 61% of the total. Foregone corporate tax revenues amount to 19% and higher social protection, perceived by many to be the main source of losses, only accounts for 20%. The same holds for the other countries; the lion share of the fiscal benefits is due to higher income and payroll tax revenue, which amount to between 56-65%. Savings in social assistance spending amount to at most 33% of total fiscal benefits in the Czech Republic, while in Romania these savings are only 1% (Figure 13).

countries as a whole; i.e. on average 0.15 for each percent across the four countries. Applying the 0.15 average value to the Roma population estimates as a share of the total populations in Hungary, Slovakia, Albania, Bosnia and Herzegovina, Croatia, Kosovo, FYR Macedonia, and Montenegro,

[18] Of course, the accuracy of these estimates depends on the similarity between Roma exclusion in the four countries for which we have sufficiently detailed data and the other group of countries. Research by, for example, UNDP (2006), suggests that this is the case.

[19] This estimate is based on the following calculation. For simplicity, let's conservatively assume that Roma have similar primary school completion rates, but have secondary completion rates that are one-tenth those of majority populations, and do not participate in either pre-school or higher education. Also suppose that it would cost 50 percent more per Roma pupil than per non-Roma pupil to ensure that Roma children would have the same educational attainment at all levels as the majority populations. How large would the extra annual investment need to be to close this education gap? Take for example Bulgaria, which in 2006 Bulgaria spent approximately 4.5% of GDP on public education expenditures, equivalent to approximately Euro 1.2 billion. Of this, 20% was spent on primary and 46% on secondary education, with the remainder 34% on all other public education expenditures (World Development Indicators, 2010). The lower bound fiscal benefits in 2007 were Euro 128 million, or approximately 11% of this amount. Hence, to close the education gap, and under our assumption that the cost per Roma pupil is 1.5 times higher, it would need to spend 1.5 x (0.90 x 46%) (to bridge secondary) + 1.5 x 34% (to bridge pre-primary and tertiary) equals 1.13 times total value of the education budget if Roma were 100% of the population. However, the Euro 128 million annual fiscal benefits figure corresponds to Roma making up 4.84% of the population. Hence, 1.13 x 0.048 = 0.055 times Euro 1.2 billion equals *Euro 66.3 million annually in extra investments that would be needed to bridge the education gap, equivalent to 51.8% of the annual fiscal gains*. Using the higher Roma population estimates, the necessary additional investment is correspondingly higher, but so are the fiscal benefits. For the other countries, corresponding share of fiscal benefits equaling the extra education investments are: 15.9% of annual fiscal gains in the Czech Republic, 60.4% in Romania, and 31.1% in Serbia.

Figure 13: Breakdown of Fiscal Benefits



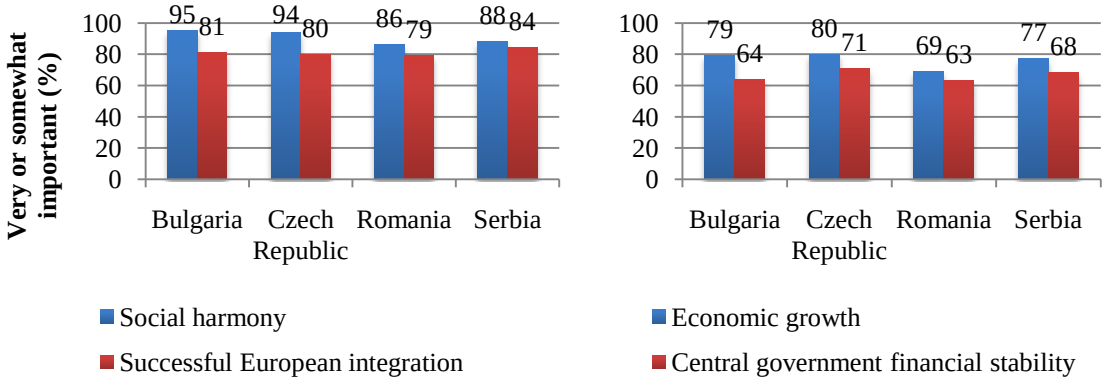
Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Roma Czech Republic Labor Force Survey (WB), 2008 Czech Republic Labor Force Survey (CSO), 2008 Czech Republic Household Budget Survey (CSO), 2008 Romania Family Budget Survey (NIS), 2007 Serbia LSMS (WB); Authors' calculations.

3.12 In short, labor market inclusion generates large economic and fiscal benefits for these countries. Capturing the gains is not only a key issue for the Roma communities themselves, but is also critically important in the face of demographic trends where majority populations are declining and Roma populations are increasing.

4. Toward Inclusion

4.1 **The stakeholders consider Roma inclusion to be important for social harmony, successful European integration, and the countries' economies.** These responses were shared by Roma and non-Roma, government and non-government stakeholders, and were very similar across the four countries as shown in Figure 14a: the vast majority of stakeholders rate Roma inclusion as important for social harmony and European integration. Most stakeholders also considered Roma inclusion as an important determinant for the country's economic growth as well for the financial stability of the government (Figure 14b). These responses were also very similar across the four countries and between government and non-government respondents, with the exception of Serbia where government officials were considerably less likely than non-government officials to rate inclusion as being (very) important for the government's financial stability: 48% versus 84%.

Figures 14a and b: Importance of Roma Inclusion

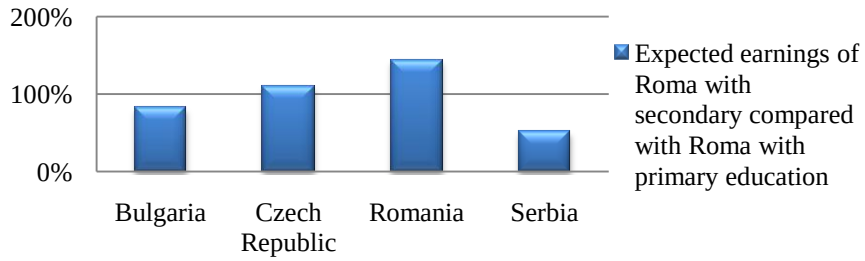


Source: 2010 Roma Stakeholder Survey (WB): Authors' calculations.

Returns to Education

4.2 **Furthermore, there are substantial returns to education among the Roma.** Figure 15 shows that among Roma who completed secondary education the average expected earnings, which take into account both the probability of employment and the earnings among those with jobs, are much higher than the average expected earnings among Roma who completed primary education: 83% higher in Bulgaria, 110% higher in the Czech Republic, 144% higher in Romania, and 52% higher in Serbia.

Figure 15: Expected Earnings among Working Age Roma with a Secondary Education Relative to Roma with Primary Education



Sources: 2007 Multi-Topic Bulgaria Survey (WB), 2008 Czech Republic Household Budget Survey (CSO), 2008 Romania Family Budget Survey (NIS), 2007 Serbia LSMS (WB); Authors' calculations.

There is Knowledge About What Works for Roma Integration

4.3 **There are many policies that can help labor market integration, both in the short- and in the long-run.** The report does not aim to develop specific policy proposals, but significant knowledge is now accumulating about successful interventions. These need to be tailored to specific community circumstances and most likely support inclusion through

multi-pronged approaches. Generally, entry points exist in the following areas: (a) improving outcomes of the current working-age population through employment activation; (b) improving secondary completion to give young Roma labor market entrants a better chance; and, (c) improving school readiness to reduce segregation, special schools, and ensure the next generation of Roma enter the labor market with the same skill set as non-Roma. In some instances, achieving these will require a multi-sectoral approach that also includes focusing on health and productivity; housing and health; and, housing and mobility. It will also require complementing some interventions with rigorous monitoring and evaluation to learn which specific ones are most effective to improve results and generate public support for proven programs.

4.4 **Labor activation programs** include a variety of programs such as job search assistance, improving skills through training and attachments, public works programs, and even childcare programs. The appropriate programs must follow a diagnostic of the (sub-)national situation. For example, given the very high labor force participation rates but low skill levels among Roma men, improving skills and assisting in job search are potential candidates. So could be targeted employer subsidies in cases where discrimination is a barrier, for example through subsidized work attachments. Similarly, programs improving skill levels among Roma women and enhancing women's labor market attachment through child care and early childhood education programs are likely candidates to improve the labor market outcomes of Roma women. Lessons can be drawn from various types of labor activation programs that already exist or are starting. One such program is the European Social Fund supported Acceder program by Gitanos in Spain, which supports Spain's Roma population gain access to employment. The program provides vocational training and establishes direct links between the Roma and companies. Another example is the newly established Kiut microfinance program by Polgar Foundation in Hungary, in part with funding support from the European Parliament. Kiut not only provides microfinance but also supports successful loan applicants in obtaining the appropriate registrations and business licenses. This program does not exclusively target Roma, but rather targets poor communities with high Roma unemployment. The EC DG Regional Policy is collaborating with the World Bank and UNDP on the monitoring and evaluation of Kiut,

4.5 **Improving school attendance and completion** include both supply side and demand side interventions. The former include explicit school desegregation efforts (see e.g. Kezdi and Suranyi (2009) for the (positive) findings from an impact evaluation), improving school quality through grants programs that can support a variety of activities including teacher training. An example of this type of intervention is the new social service delivery program that the government of Serbia is carrying out in collaboration with the World Bank, in which

municipalities can apply for grants to support schools and NGOs implement programs that improve school quality and desegregation. Mixed supply/demand side interventions include hiring Roma educational and teaching assistants (piloted in, for example, Latvia, Lithuania, Poland, and the Slovak Republic). Conditional cash transfer (CCT) programs may be an effective demand side option to stimulate schooling. The World Bank is currently collaborating with the FYR Macedonia government on the design, implementation, and evaluation of a CCT program supporting poor households as a top-up to those eligible for Social Financial Assistance if they have children of secondary school age and these children attend school at least 85% of the time. As with employment activation programs, the diagnostic here is very important. For example, as the book *Conditional Cash Transfers: Reducing Present and Future Poverty* (WB, 2009) points out, international experience shows that CCTs which are implemented in an environment in which school *quality* is a major constraint is unlikely to have a positive impact on long-term learning outcomes, even if it improves attendance, a point also made by the Roma Education Fund (2010).

4.6 **Improving school readiness** is essential to structurally addressing the employment gap between Roma and non-Roma. Streaming into special schools, school segregation, and early school drop-out must be addressed at a young age through demand and supply side interventions that improve early childhood development (ECD) outcomes, and give young Roma children an equal starting point as they enter primary school. Some EU member states have targeted the low Roma education levels by starting early-childhood education and other preparatory programs (for example, Czech Republic, Lithuania, Slovak Republic). An ECD pilot example currently being implemented is the "A Good Start" program, by the Roma Education fund and its local partner organizations in Slovakia, Hungary, Romania, and FYR Macedonia (with financing from the EU Parliament). As with the Kiut microfinance program, the EC DG Regional Policy collaborates with the World Bank and UNDP on project monitoring and evaluation. Similarly, the Bulgaria Social Inclusion Project (SIP), which the government of Bulgaria has begun implementing in Fall 2010 with technical support from the World Bank will provide an opportunity to draw important lessons from. This project will provide grants to municipalities to improve the provision of ECD services, explicitly targeting poor communities.

4.7 **High long-term economic benefits make early childhood education interventions a promising instrument for public policy to ensure full labor market inclusion in the long-run.** Their proven positive effect on years of schooling and academic achievement could directly address the productivity gap between Roma and non-Roma. International experience suggests that investments in early childhood education and development are the most promising intervention to break the intergenerational transmission of social exclusion.

A recent study in the United States shows that investments in the early years of life of children, before they enter primary education, result in greater returns than later investments.[20] There is also increasing evidence that interventions in early childhood particularly benefit poor and disadvantaged children and families and therefore are a promising instrument to promote social inclusion. For example, in their study on the fiscal benefits of to Roma education in Hungary, Kertesi and Kézdi (2006) find that the earlier the intervention in childhood, the higher the return on this investment; that is, the higher the beneficial impact on government finances. This is also consistent with a host of other long-term studies that indicate that early childhood programs typically register improvements for children in health, cognitive ability, academic performance, and attainment and, later in life, higher incomes, and lower risk of welfare dependency.[21]

4.8 **Investments in the three key areas above can be accompanied by well-designed impact evaluations, which can provide additional lessons on "what works best" and can convince a skeptical public to support funding for initiatives that have proven successful**. The past decade has seen a rapid increase in the use of rigorous experimental impact evaluations to test the effectiveness of hundreds of programs around the world aimed at raising education outcomes, including ECD, getting unemployed people into jobs, improving peoples' lives through credit and other business services, improving health outcomes etc. Rigorous impact evaluation findings allowed policy makers to modify or cut programs that were shown not to be effective and scale up programs that were. Well-known examples or the latter are the Mexican Opportunidades CCT program and the Indian Balsakhi remedial education program. A rare example of rigorous impact evaluation work on Roma education is the recent Hungarian school segregation impact evaluation by Professor Gabor Kezdi and research fellow Eva Suranyi from the Central European University (2009). In areas where the evidence base can be strengthened, policy making based on rigorous evidence can generate the public support for programs that have proven to be successful[22].

4.9 **Apart from national resources, EU structural funds are an important financing source for programs and projects that foster Roma inclusion** In line with Common Basic

[20] Carneiro, Pedro, and James Heckman. 2003. "Human Capital Policy." Cambridge, Mass.: National Bureau of Economic Research Working Paper Series 9495.

[21] Three of the best documented studies for the United States are on the *Chicago Child-Parent Centers*, a half-day program on a large scale in the Chicago public schools; the *Abecedarian program*, a full-day year round educational program in Chapel Hill, NC with follow up to age 21; and the *High/Scope Perry Preschool*, a half-day program on a small scale in the Ypsilanti, MI public schools with follow up to age 40.

[22] The Poverty Action Lab Europe has a number of experimental impact evaluations in France that are aimed at promoting social inclusion through better education and labor market programs. These include experimental evaluations of programs (a) supporting 18-25 year olds through long-term mentoring plus financial assistance; (b) career mentoring for secondary students; (c) awareness campaigns for parents of middle school students; (d) vocational training for low-skilled unemployed young people; (e) training and job placement for job seekers at risk of long term unemployment; (f) counseling welfare recipients; and, (g) small business training and loans for aspiring entrepreneurs in disadvantaged neighborhoods.

Principle Two, "explicit but not exclusive" targeting, the European Commission works to mainstream Roma inclusion into all EU policies, for example in such initiatives as Youth in Action and Lifelong Learning Programmes. This mainstreaming approach allows the Commission to support activities through a variety of EU funding mechanisms. Particularly relevant are the European Social Fund (ESF) and the European Regional Development Fund (ERDF), which together fall under the EU Structural Funds umbrella. Fortunately, there are already existing institutions whose knowledge and capacity can be leveraged and existing partnerships that can be strengthened to achieve much greater use of the available resources.

4.10 **Existing institutions can be leveraged and partnerships strengthened to ensure greater use of EU structural funds.** To achieve greater use, four areas are particularly important: (a) improving knowledge gathering on what specific programs and policies work best; (b) ensuring that information on effective programs is widely discussed, debated, and disseminated; (c) enhancing the program design, implementation, and monitoring capacity of (sub)national entities and civil society organizations; and, (d) strengthening Roma participation. For example, the EURoma[23] - the European Network on Social Inclusion and Roma under the Structural Funds- established in 2008 in line with Common Basic Principle 6 has a focused aim "to sharing of strategies, initiatives and approaches, learning based on experience and best practices, and the dissemination and standardisation of such knowledge." In addition to drawing lessons directly from the various government and non-government entities implementing Roma inclusion programs, this type of focused network could leverage the monitoring and evaluation expertise and (global) findings of the work done by the EC- and national evaluation units and institutions like the World Bank, regional academics, the Poverty Action Lab, and others with a long history of program monitoring and evaluation. Further, to ensure that information on effective programs is widely discussed, debated, and disseminated, the broad reach of the Decade of Roma Inclusion and the EU Platform for Roma Inclusion can be further leveraged, as well as country focused events on use of structural funds for Roma inclusion such as those organized by the Hungarian (October 2009) and Romanian (October 2010) governments in collaboration with the EC. To enhance the program design and implementation capacity, the experience can be leveraged of various (inter-)national organizations, including the World Bank, that have a long history of building partnerships with (sub)national authorities to enhance capacity around the design, implementation, and evaluation of multi-sector inclusive approaches in education, employment, housing etc. And, finally, as embodied in the Roma Decade vision statement "*Nothing about us without us: Roma participation will make or break the Decade*," Roma participation at all levels is critical to ensure greater and most effective use of available funds.

[23] (www.euromanet.eu

Appendix I: Responses to Stakeholder Survey

Table 1. Characteristics of Stakeholders Contacted.

Stakeholder Respondent type	*Country*				*Total*	*Total (%)*
	Bulgaria	*Czech Republic*	*Romania*	*Serbia*		
Central government official	9	4	12	16	41	18%
Local/regional government official	6	7	29	3	45	20%
NGO community	23	12	23	12	70	32%
Press/media	2	0	2	2	6	3%
International organization	0	0	1	6	7	3%
School official	0	0	11	1	12	5%
Teacher	4	0	9	1	14	6%
Parent	1	3	3	2	9	4%
Other	0	9	9	0	18	8%
Total	*45*	*35*	*99*	*43*	*222*	*100%*

Table 2. Roma Ethnicity of Stakeholders Contacted.

Do you consider yourself to be Roma, or part of any other group commonly associated with Roma?	*Country*				*Total (%)*
	Bulgaria (%)	*Czech Republic (%)*	*Romania (%)*	*Serbia (%)*	
It doesn't matter / prefer not to say	14	7	6	8	8
No	44	31	63	48	51
Yes	42	62	31	44	41

Table 3. Importance of Social Inclusion.

	Bulgaria			**Czech Republic**			**Romania**			**Serbia**		
	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**
How important do you think that Roma inclusion is for our country's successful advancement in each of the following areas?												
(a) Social harmony												
Very Important	93	80	**88**	92	64	**83**	74	68	**72**	71	58	**65**
Somewhat	4	13	**7**	4	27	**11**	14	15	**14**	25	21	**23**
Neutral	0	0	**0**	4	9	**6**	5	7	**6**	0	0	**0**
Not very	0	7	**2**	0	0	**0**	3	7	**5**	4	5	**5**
Irrelevant	4	0	**2**	0	0	**0**	3	2	**3**	0	16	**7**
(b) Successful European Integration												
Very Important	64	67	**65**	50	27	**43**	40	54	**45**	67	42	**56**
Somewhat	18	13	**16**	25	64	**37**	41	24	**34**	25	32	**28**
Neutral	14	20	**16**	21	9	**17**	12	10	**11**	4	11	**7**
Not very	0	0	**0**	4	0	**3**	3	10	**6**	0	0	**0**
Irrelevant	4	0	**2**	0	0	**0**	3	2	**3**	4	16	**9**
(c) Economic growth												
Very Important	56	67	**60**	63	18	**49**	45	32	**39**	67	47	**58**
Somewhat	22	13	**19**	17	64	**31**	28	34	**30**	21	16	**19**
Neutral	15	13	**14**	21	18	**20**	22	15	**19**	8	16	**12**
Not very	4	7	**5**	0	0	**0**	5	15	**9**	0	5	**2**
Irrelevant	4	0	**2**	0	0	**0**	0	5	**2**	4	16	**9**
(d) The financial stability of the central government												
Very Important	48	40	**45**	38	27	**34**	36	39	**37**	42	11	**28**
Somewhat	19	20	**19**	38	36	**37**	26	27	**26**	42	37	**40**
Neutral	15	33	**21**	21	36	**26**	26	5	**17**	8	32	**19**
Not very	7	0	**5**	4	0	**3**	9	17	**12**	4	5	**5**
Irrelevant	11	7	**10**	0	0	**0**	3	12	**7**	4	16	**9**

Table 4. Perceptions by Stakeholders on the Beliefs of General Public on Reasons for Roma Unemployment.

	Bulgaria			**Czech Republic**			**Romania**			**Serbia**		
	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**
When considering Roma adults without jobs, what do you think the average person believes the reason to be that they are not working?												
(a) Unlucky/not enough jobs												
Strongly agree	0	0	**0**	14	0	**8**	6	13	**9**	0	27	**11**
Somewhat	0	50	**15**	29	36	**32**	14	23	**18**	12	9	**11**
Neutral	21	20	**21**	7	18	**12**	16	20	**18**	12	18	**14**
Somewhat dis.	25	0	**18**	43	27	**36**	35	17	**28**	24	18	**21**
Strongly disagree	54	30	**47**	7	18	**12**	29	27	**28**	53	27	**43**
(b) Lazy and lacking willpower												
Strongly agree	63	60	**62**	54	36	**46**	38	37	**38**	65	55	**61**
Somewhat	29	20	**26**	23	36	**29**	30	23	**28**	29	27	**29**
Neutral	0	20	**6**	8	9	**8**	8	23	**14**	6	9	**7**
Somewhat dis.	4	0	**3**	8	18	**13**	16	17	**16**	0	9	**4**
Strongly disagree	4	0	**3**	8	0	**4**	8	0	**5**	0	0	**0**
(c) Face discrimination												
Strongly agree	0	0	**0**	36	9	**24**	16	10	**14**	18	18	**18**
Somewhat	22	0	**15**	0	55	**24**	22	20	**21**	12	18	**14**
Neutral	4	20	**9**	21	18	**20**	22	17	**20**	18	18	**18**
Somewhat dis.	22	40	**27**	21	0	**12**	33	40	**36**	29	9	**21**
Strongly disagree	52	40	**48**	21	18	**20**	8	13	**10**	24	36	**29**
(d) Lack sufficient education or qualification												
Strongly agree	39	50	**42**	69	18	**48**	47	53	**49**	82	45	**68**
Somewhat	30	30	**30**	25	73	**44**	45	27	**38**	18	45	**29**
Neutral	13	20	**15**	0	9	**4**	2	17	**7**	0	9	**4**
Somewhat dis.	17	0	**12**	6	0	**4**	4	3	**4**	0	0	**0**
Strongly disagree	0	0	**0**	0	0	**0**	2	0	**1**	0	0	**0**
(e) Prefer to live off social assistance												
Strongly agree	79	60	**74**	73	36	**58**	56	60	**58**	71	45	**61**
Somewhat	13	20	**15**	13	36	**23**	22	23	**23**	24	36	**29**
Neutral	4	20	**9**	7	27	**15**	10	13	**11**	6	18	**11**
Somewhat dis.	4	0	**3**	0	0	**0**	6	3	**5**	0	0	**0**
Strongly disagree	0	0	**0**	7	0	**4**	6	0	**4**	0	0	**0**

Table 5. Stakeholder Perceived Impact of High Roma Joblessness.

	Bulgaria			Czech Republic			Romania			Serbia		
	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**	Non-G (%)	Gov (%)	**Total (%)**
Do you feel that high joblessness among Roma has a negative impact on:												
(a) School participation among Roma children?												
Strongly agree	67	42	**59**	78	64	**72**	71	73	**72**	71	91	**79**
Somewhat	19	42	**26**	22	36	**28**	20	23	**21**	18	0	**11**
Neutral	4	8	**5**	0	0	**0**	6	0	**4**	0	0	**0**
Somewhat dis.	4	0	**3**	0	0	**0**	2	0	**1**	12	0	**7**
Strongly disagree	7	8	**8**	0	0	**0**	2	3	**2**	0	9	**4**
(b) Ability of government to provide social services (education, health) to non-Roma?												
Strongly agree	32	45	**36**	6	9	**7**	20	14	**18**	41	45	**43**
Somewhat	16	18	**17**	28	27	**28**	20	31	**24**	24	27	**25**
Neutral	8	18	**11**	6	18	**10**	28	17	**24**	18	0	**11**
Somewhat dis.	32	9	**25**	33	27	**31**	16	14	**15**	18	9	**14**
Strongly disagree	12	9	**11**	28	18	**24**	16	24	**19**	0	18	**7**
(c) Ability of government to provide social pensions to non-Roma?												
Strongly agree	36	45	**39**	11	0	**7**	28	18	**24**	38	45	**41**
Somewhat	16	18	**17**	0	27	**10**	20	25	**22**	19	18	**19**
Neutral	8	9	**8**	11	18	**14**	32	18	**27**	25	9	**19**
Somewhat dis.	24	18	**22**	39	18	**31**	8	11	**9**	13	0	**7**
Strongly disagree	16	9	**14**	39	36	**38**	12	29	**18**	6	27	**15**
(d) The chances for a constructive public dialogue around issues of Roma exclusion?												
Strongly agree	39	36	**38**	56	36	**48**	22	24	**23**	59	40	**52**
Somewhat	22	27	**24**	22	45	**31**	44	21	**35**	29	30	**30**
Neutral	22	27	**24**	11	18	**14**	18	24	**20**	0	0	**0**
Somewhat dis.	9	9	**9**	11	0	**7**	14	21	**16**	12	10	**11**
Strongly disagree	9	0	**6**	0	0	**0**	2	10	**5**	0	20	**7**

Appendix II: Foregone Benefit Estimation Technical Note

Here we describe the procedure used to estimate the economic and fiscal cost due to Roma social exclusion. Throughout the discussion, we limit the analysis to the subset of working-age individuals, thus excluding children and the elderly, even if not explicitly mentioned. Although the core methodology is the same in all four countries, it is applied in slightly different ways due to data availability. For Serbia and Bulgaria, we possess data on monthly net wages, whereas for Serbia and the Czech Republic we have data on gross monthly wages as well as social security contributions and taxes. Thus, for Serbia and Bulgaria we firstly estimate the monthly gross wage using the average statuary tax rates for income and social security contributions.[24] Using data on the average income tax rate t_i and the average payroll or social contribution tax rate t_p (World Bank, Doing Business, 2010), we can relate net to gross wages according to the formula:

$$\text{net wage} = (1 - t_i) \cdot (1 - t_p) \cdot \text{gross wage} \qquad \text{or} \qquad \text{gross wage} = \frac{\text{net wage}}{(1 - t_i) \cdot (1 - t_p)}$$

To account for the loss in capital productivity, we use OECD (2008) estimates on the average capital-labor share of income ratios c in the four different countries, defined as the share of total output accrued to capital owners. We assume that capital productivity is the same for Roma and non-Roma. Since gross wage is, by definition, the share of total output received by labor, we can estimate total output per worker as:

$$\text{output} = \frac{\text{gross wage}}{(1 - c)}$$

The total productivity loss for the individual is then calculated as the difference between the expected output produced by a working-age member of the majority group and the expected output produced by a working-age Roma. Each is found by multiplying the average gross output per employed worker times the employment rate, which effectively functions as the probability of employment. That is:

[24] Although at a first glance this procedure might seem an over-simplification that does not discriminate against different marginal tax rates, in the process of transitioning from a planned to a free-market economy all these countries have adopted flat income tax rates.

$$E[\text{Productivity loss}] = E[\text{output}|\text{Roma}, \text{employed}] \cdot p(\text{employed}|\text{Roma}) - E[\text{output}|\text{majority}, \text{employed}] \cdot p(\text{employed}|\text{majority})$$

The underlying assumption is that gross wage is a measure for productivity. It can be easily seen that high employment gaps and high output gaps increase the productivity loss, while low gaps diminish it.

Next, the procedure to calculate fiscal losses is described. Fiscal losses are due to lower income and payroll tax receipts, to lower corporate tax receipts, and to higher welfare expenditure with respect to the majority group. The former are directly measured in the case of the Czech Republic and Romania, while they are estimated for Bulgaria and Serbia using the income and payroll tax rates described above. To estimate the loss in corporate tax revenue, the average corporate tax rate t_c (WB Doing Business, 2010) is used. For Bulgaria, Romania, and Serbia, we apply this rate to the capital share of gross output and find the corporate tax revenue per employed worker. Adding up all tax revenues we obtain:

$$\text{Tax revenue} = \left[1 - \left(1 - t_p\right) \cdot \left(1 - t_i\right)\right] \cdot \left(1 - c\right) \cdot \text{output} + t_c \cdot c \cdot \text{output} = \left\{\left[1 - \left(1 - t_p\right) \cdot \left(1 - t_i\right)\right] \cdot \left(1 - c\right) + t_c \cdot c\right\} \cdot \text{output}$$

Then, we can calculate the expected fiscal loss due to income, payroll, and corporate tax revenue for the average working-age individual as described above using employment rates as probabilities:

$$E[\text{Revenue loss}] = E[\text{Tax revenue}|\text{Roma}, \text{employed}] \cdot p(\text{employed}|\text{Roma}) - E[\text{Tax revenue}|\text{majority}, \text{employed}] \cdot p(\text{employed}|\text{majority})$$

On the expenditure side, all individuals in the working-age cohort are eligible, and might receive some type of welfare benefit. Hence, we calculate the total amount of benefit received by each individual in this cohort (excluding retirement pension), and estimate the fiscal loss by taking the difference of the average benefit received by a working-age member of the majority group and the average benefit received by a working-age Roma:

$$E[\text{Expenditure loss}] = E[\text{Welfare benefit} | \text{majority}, \text{working-age}] - E[\text{Welfare benefit} | \text{Roma}, \text{working-age}]$$

Note that now we subtract the average benefit received by a Roma individual, and not vice versa. Lastly, we sum the expected tax revenue loss and the expected expenditure loss to obtain the total expected fiscal loss per working-age Roma. Lastly, aggregate figures for the entire working-age Roma population are found by multiplying the Roma population estimate times the share of Roma working-age individuals in the sample (which is an unbiased estimate of the share in the overall population) and the expected output and fiscal losses.

Appendix III: Summary of Foregone Benefit Estimates

Table A: Bulgaria. Summary of Sources of Forgone Economic and Fiscal Benefits. [a]

Type of Forgone Benefit	*Estimate of Forgone Benefits*			
	Individual Working-age Roma Person		*Total Working-age Roma Population*	
	Male (Euro)	*Female (Euro)*	*Lower bound (million Euro)*	*Upper bound (million Euro)*
Net Labor Income	-1,058	-908	-214	-434
Productivity Labor Income (1)	-1,469	-1,260	-298	-603
Productivity Capital Income (2)	-1,127	-967	-228	-462
Payroll and Income Tax Revenue (3)	-412	-353	-83	-169
Corporate Tax Revenue (4)	-112	-97	-23	-46
Social protection Benefit Expenditure (5)	-50	-153	-264	-535
Total Yearly Forgone Economic Benefit (1)+(2)	-2,596	-2,227	-526	-1,066
Total Yearly Fiscal Forgone Benefit (3)+(4)+(5)	-574	-603	-128	-260

Sources: 2007 Multi-Topic Bulgaria Survey (WB); Authors' calculations.
[a] The Bulgarian Lev exchanges at a fixed rate of 1.95583 Lev to 1 Euro.

Table B: Czech Republic. Summary of Sources of Forgone Economic and Fiscal Benefits.[a]

Type of Forgone Benefit	*Estimate of Forgone Benefits*	
	Individual Working age Roma Person (Euro)	*Total Working age Roma Population (million Euro)*
Productivity Labor Income (1)	-4,443	-222
Productivity Capital Income (2)	-2,901	-145
Payroll and Income Tax Revenue (3)	-2,933	-147
Corporate Tax Revenue (4)	-551	-28
Social protection Benefit Expenditure (5)	-1,722	-86
Total Yearly Forgone Economic Benefit (1)+(2)	-7,344	-367
Total Yearly Fiscal Forgone Benefit (3)+(4)+(5)	-5,207	-260

Source: Roma Labor Force Survey (2008, WB), Labor Force Survey, and Households Budget Survey (2008, CSO); Authors' calculations.
[a] The Czech Koruna exchanges at a rate of 26.47 CZK to 1 Euro.

Table 3: Romania. Summary of Sources of Forgone Economic and Fiscal Benefits. [a]

Type of Forgone Benefit	*Estimate of Forgone Benefit*		
	Individual Working age Roma Person (Euro)	*Total Working age Roma Population*	
		Lower bound (million Euro)	*Upper bound (million Euro)*
Net Labor Income	-958	-1,205	-4,055
Productivity Labor Income (1)	-1,344	-1,691	-5,686
Productivity Capital Income (2)	-1,252	-1,575	-5,297
Payroll and Income Tax Revenue (3)	-386	-485	-1,632
Corporate Tax Revenue (4)	-200	-252	-848
Social protection Benefit Expenditure (5)	-6	-8	-27
Total Yearly Foregone Economic Benefit (1)+(2)	-2,596	-3,265	-10,984
Total Yearly Fiscal Forgone Benefit (3)+(4)+(5)	-592	-745	-2,506

Source: Family Budget Survey (2008, NIS); Authors' calculations.
[a] The exchange rate used is 3.6826 Lei to 1 Euro (2008 average exchange rate).

Table 4: Serbia. Summary of Sources of Foregone Economic and Fiscal Benefits. [a]

Type of Forgone Benefit	*Estimate of Forgone Benefit*		
	Individual Working age Roma Person (Euro)	*Total Working age Roma Population*	
		Lower bound (million Euro)	*Upper bound (million Euro)*
Net Labor Income	-1,349	-98	-409
Productivity Labor Income (1)	-1,867	-136	-566
Productivity Capital Income (2)	-1,591	-116	-483
Payroll and Income Tax Revenue (3)	-518	-38	-157
Corporate Tax Revenue (4)	-159	-12	-48
Social protection Benefit Expenditure (5)	-171	-12	-52
Total Yearly Foregone Economic Benefit (1)+(2)	-3,458	-252	-1,049
Total Yearly Fiscal Forgone Benefit (3)+(4)+(5)	-848	-62	-257

Source: 2007 Serbia LSMS (WB); Author's calculations.
[a] The exchange rate used is 80.11 Dinar to 1 Euro (2007 average exchange rate).

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