

**Roma Inclusion Working Papers** 

# Roma and non-Roma in the Labour Market in Central and South Eastern Europe

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# **Table of content**

Abstract		6
Introduction		7
General Economic Co	ontext	11
Roma in the labour n Unemploym Employment Concluding o	narket in CSEE in 2011 ent and joblessness t comments	15 15 22 30
Changes in the situat	tion of Roma between 2004 and 2011	31
Towards explaining o	disadvantage	37
Conclusions and poli	cy implications	49
References		51
Annexes Table A1: Es Io	timation of employment probability and (natural garithm) wage returns to education – full arameter estimates	52 52
Table A2a: Es	stimation of employment probability education sing separate equations by sex and ethnicity – full	53
Table A2b: E to ai	stimation of (natural logarithm) wage returns e education using separate equations by sex and ethnicity – full parameter estimates	54
Table A3: No	opo decomposition of employment and wages by	55
Table A4: No Table A5: No Table A6: No	opo decomposition of wages by education opo decomposition of wages by location opo decomposition of wages by formality	55 56 56

#### Abstract

This paper looks at the situation of vulnerable Roma in the labour market in twelve countries of Central and South Eastern Europe. Data from the 2011 UNDP/WB/EC regional survey on Roma communities are analysed and compared with the 2004 UNDP regional Roma survey in order to gain some understanding of the extent and nature of Roma labour market disadvantage. The paper documents the existence of substantial labour market disadvantage amongst Roma – which is particularly accentuated in the case of women. Positive developments in the form of significant economic and employment growth across much of the region and substantial increases in participation in higher - upper secondary and tertiary - educational levels between 2004 and 2011 have not been translated into anything more than very marginal gains in employment. To some extent this may be attributed to the recession and the tendency for the Global slowdown to hit more marginalized groups in the labour market more severely, however, the analysis also shows that educational differences cannot account for the substantial differences which remain in labour market opportunities between Roma and non-Roma and that a substantial part of this differential is explainable in terms of discrimination and other non-observable factors. School quality seems to be playing a role and there is clear evidence that a major factor underlying Roma/non-Roma wage differences concerns their labour market marginalization and specifically, the heavy concentration of Roma in informal employment. The study ends by arguing in favour of more rigorous impact evaluation of employment initiatives in order to better understand which labour market measures have been and/or are likely to be more effective and why.

## Introduction

The Roma are both the largest 'minority' ethnic group in Central and South Eastern Europe and the one which suffered most from transition to the market. Opinions differ as to the causes of these difficulties but the fact remains that still today, people from the Roma minority have unemployment rates far above – and employment rates and wages far below – those of majority populations. The situation of the Roma in SEE countries has been documented in some detail by Ivanov et al. (2006) amongst others. Two major explanations have typically been used to account for Roma labour market disadvantage: a) the lower level of educational achievement observable amongst the Roma which, since employment opportunities and wages both rise with educational achievement, imply a restriction on the employment opportunities available to Roma; and, b) the discrimination faced by Roma in the labour market, with employers being less willing to employ, and paying lower wages to, Roma compared to similarly gualified non-Roma. O'Higgins (2010a) has attempted to identify the relative contribution of these two explanations and finds that both have some validity but that indeed the lower returns to education - that is, the smaller benefits accruing to more educated Roma in terms of increased chances of finding work and higher wages - arising from discrimination, in itself goes some way towards explaining the lower educational participation of this ethnic group. Looking at the issue for five countries separately, Milcher & Fischer (2011) find evidence of wage discrimination against the Roma in Albania and Kosovo, but not in Bulgaria, Croatia or Serbia. One central theme underlying, and developed by, this paper is that the education and discrimination based explanations are not mutually exclusive and indeed may well be intricately connected.

This paper is concerned with documenting and looking into the causes – and in particular the relative importance of education and discrimination – of the labour market situation of Roma in the countries of Central and South Eastern Europe covered by the 2011 regional Roma survey. The survey was completed in cooperation with the United Nations Development Programme (UNDP), the World Bank, the European Commission (EC) and in coordination with the European Union's Agency for Fundamental Rights (FRA). Two parallel and complementary surveys were carried out in 2011 in an effort to map the current situation of Roma in the EU: One was focusing on social and economic development aspects and carried out by the UNDP and the World Bank (funded by the European Commission,<sup>1</sup> UNDP and the Nordic Trust Fund at the World Bank), and one focusing on the fulfillment of key fundamental rights carried out by the EU Agency for Fundamental Rights (FRA).

Directorate General for Regional and Urban Policy of the European Commission funded the survey in the EU Member States.

The UNDP/WB/EC survey was conducted in May-July 2011 on a random sample of Roma and non-Roma households living in areas with higher density (or concentration) of Roma populations in the EU Member States of Bulgaria, Czech Republic, Hungary, Romania, Slovakia, and the non-EU Member States of Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Montenegro, Republic of Moldova and Serbia. In each of the countries, approximately 750 Roma households and approximately 350 non-Roma households living in proximity were interviewed.

The FRA survey was conducted in May-July 2011 on a random sample of Roma and non-Roma households living in areas with concentrated Roma populations in the EU Member States of Bulgaria, Czech Republic, Hungary, Romania, Slovakia, France, Greece, Italy, Poland, Portugal and Spain. In most of the countries the FRA sample consists of 1,100 Roma households and approximately 500 non-Roma. In France, about 700 gens du voyage and 300 Roma Migrant households in the greater Paris area were surveyed. In Poland and Italy, the sample size was reduced to 600 and 700 Roma households respectively In total 16,648 persons (11,140 Roma and 5,508 non-Roma persons) were interviewed.

The survey questionnaire was designed jointly by a team from UNDP, the World Bank and the FRA. Each survey used different questions and a core common component composed of key questions on education, employment, housing, health, free movement and migration issues, and discrimination experiences. The questions in the common core were identical.

The UNDP/WB/EC survey was implemented by the IPSOS polling agency and the FRA survey through Gallup Europe. Both surveys applied the same sampling methodology in countries of overlap allowing for the development of a common dataset on core indicators and ensuring comparability and consistency of results. This survey, in addition to the FRA Pilot Roma Survey conducted during the same period, represents the largest integrated household survey of the Roma to date. The combined UNDP/WB/EC Regional Roma Survey 2011 and FRA Roma Pilot Survey 2011 has a total of 20,018 Roma households (87,717 household members living in these households) and 9,782 non-Roma households living nearby (28,214 household members) covering 18 European countries.

The UNDP/WB/EC 2011 Regional Roma survey was administered in twelve countries: Albania, Bosnia and Herzegovina, Bulgaria, Czech Republic, Croatia, Hungary, FYR of Macedonia<sup>2</sup>, Moldova, Montenegro, Serbia, Slovakia and Romania. Following the same pattern as the previous 2004 regional Roma survey conducted by UNDP, as an integrated household survey with separate components containing both household and individual modules, it outlined the profiles of all members of surveyed households, as well as issues that relate to the household in general.<sup>3</sup>

<sup>2</sup> The Former Yugoslav Republic of Macedonia, further in the text referred to as "Macedonia"

<sup>3</sup> The presentation of the survey methodology is largely based on: Ivanov, A., Kling, J., and Kagin J. (2012).

The survey was carried out via face-to-face interviews at the respondent's household, following a sampling methodology where randomly selected households in areas of compact Roma population (over national average density of Roma population), who implicitly identified themselves as Roma were surveyed. In parallel a control sample of non-Roma communities living in close proximity to these Roma was surveyed. In defining the Roma sample a combination of external and self-identification was used. In the analysis of the data, the term "non-Roma" relates, unless specified different, primarily to the non-Roma sample of the survey, i.e. non-Roma living in the vicinity of the surveyed Roma. This sample is not representative of the general non-Roma population in a given country. The sample locations were selected from the lists of settlements, mostly from the national censuses, with average and above average shares of Roma. Although it is widely acknowledged that census data underestimate the absolute numbers of Roma, it can still be assumed that they adequately reflect the structure and territorial distribution of persons, who identify themselves as Roma.

Two/three stages random sampling was applied for both samples of the survey:

- First stage primary sampling unit: Clusters within settlements inhabited by the Roma population (approx. size 30 households), selected by equal probability (for the Roma sample), and clusters in close proximity of settlements inhabited by the Roma population in the Roma sample (for the non-Roma sample).
- Second stage secondary sampling unit: Households chosen with equal probabilities and selected by the method of random start and equal random walk (both samples).
- Third stage tertiary sampling unit: Household member aged 16 and above, and selected by "first birthday" technique (both samples, only one module of the questionnaire Module C).

The stratification was undertaken according to the type of settlements (urban/ rural) and region (first sub-national level), with the purpose of optimization of the sample plan and reducing the sampling error, where the strata were defined by criteria of optimal geographical and cultural uniformity. The sample size consisted of around 750 Roma and 350 non-Roma households in each country.

After documenting the relative situation of Roma in 2011, the paper goes on to consider changes in the situation occurring since the previous UNDP Regional Roma survey undertaken in December 2004. The analysis then considers in more details differences in the returns to education between Roma and their non-Roma neighbours, reporting first the returns to education for Roma and and non-Roma and then decomposing the Roma/non-Roma employment and wage gaps into elements which are explained by differences in characteristics, and above-all education, and those which are not which are can therefore at least in part, be attributed to labour market discrimination. In the concluding comments to the paper specific suggestions for the modification of policies aimed at improving the employment situation of Roma. 1

# General Economic Context

The current global economic recession is a forceful reminder to us all that the key determinant of employment (and its lack) is the state of aggregate demand in an economy. A brief examination of the overall economic context provides a useful background for the interpretation of the results reported below – particularly those related to the changes over time. As regards the countries under consideration, one may observe that there is considerable variation both in their growth performance during the new millennium and in the reactions of national growth rates to the global downturn (figure 1).



#### Figure 1: Index of GDP (PPP) per capita, CSEE 2000-2012, 2000=100

Source: Calculated on the basis of data drawn from the IMF WEO database, April 2012 update, www.imf.org

For visual clarity, the following abbreviations were used in the graphs: AL (Albania), BA (Bosnia and Herzegovina), BG (Bulgaria), H (Hungary), HR (Republic of Croatia), CZ (Czech Republic), MD (Moldova), ME (Montenegro), MK (FYR of Macedonia), RO (Romania), RS (Republic of Serbia), and SK (Slovakia). The abbreviations are following the country codes used by EUROSTAT, http://epp.eurostat.ec.europa.eu/statistics\_explained/index.php/Glossary:Country\_codes





Source: Calculated on the basis of data drawn from the IMF WEO database, April 2012 update, www.imf.org

## Figure 3: Percentage point changes in unemployment rates, 2004-2001 and 2008-2011



Source: Calculated on the basis of data drawn from the Eurostat (Czech Republic, Slovak Republic, Hungary, Bulgaria, Romania and Croatia; http://epp.eurostat.ec.europa.eu/portal/page/portal/ eurostat/ home/ and IMF WEO, April 2012 update (Bosnia &Herzegovina, Macedonia, Serbia, Albania and Moldova; www.imf.org) databases.

Looking more specifically at average economic growth rates over the periods 2004-2011 and 2008-2011 (figure 2), one may observe that all the countries in the region had positive growth in incomes between 2004 and 2011, albeit with substantial variations in the average rate. In Hungary incomes are still close to what they were in 2004 with an average annual growth rate of 0.7%, whereas in Slovakia incomes have increased at a rate of almost 5% per annum over the entire period. Albania is noteworthy in being the only country in the survey which did not experience negative growth following the onset of the global downturn, and Macedonia also emerged relatively unscathed with incomes dropping by less than 1% between 2008 and 2009. These two countries along with Slovakia and Moldova, are the only countries which have increased their GDP between 2008 and 2011.

Examination of national unemployment rates clearly illustrates the labour market consequences of the differential growth performance of countries in recent years (figure 3). These mirror rather closely cross-country variation in growth performance<sup>4</sup>; strong growth is accompanied by falling unemployment rates, weaker or negative growth by increasing unemployment.





## Roma in the labour market in CSEE in 2011

#### 2.1. Unemployment and joblessness

The most commonly used indicator of labour market performance, the unemployment rate, illustrates the situation of Roma disadvantage (figures 4 and 5). Unsurprisingly, throughout CSEE, **the Roma face higher unemployment rates than non-Roma populations living in their close proximity.** 



#### Figure 4: Unemployment rates of male Roma and non-Roma in CSEE, 2011 (%)

Source: Roma and non-Roma percentages calculated from UNDP/WB/EC regional Roma survey 2011; National averages are drawn from Eurostat (Czech Republic, Slovak Republic, Hungary, Bulgaria, Romania and Croatia; epp.eurostat.ec.europa.eu) and ILO-KILM (Bosnia &Herzegovina, Macedonia, Serbia & Montenegro, Albania and Moldova; www.ilo.org) databases.

Note: 1) the unemployed are defined on the basis of the standard ILO criteria; that is, as those who are a) without work, b) willing and able to work, and, c) actively seeking work;
2) the unemployment rate is the number of unemployed expressed as a percentage of the labour force for those within working age (15-64).
3) National averages are the annual average for 2011 except for Bosnia &Herzegovina and Macedonia (2010) and Serbia & Montenegro and Albania (2009).
4) The 'National' averages for Montenegro and Serbia are both the average for the two countries taken together.

Roma are more likely to be unemployed than their non-Roma counterparts in all countries and for both men and women. One may also notice that the relation to the national averages of both Roma and non-Roma populations living in close proximity varies across countries. This in part reflects the geographical distribution

of vulnerable Roma communities which, for example, in Slovakia and Hungary are concentrated in more impoverished parts of the country<sup>5</sup>. Thus, in these cases **both Roma and non-Roma unemployment rates based on the UNDP/WB/EC** regional Roma survey are significantly higher than the national averages.



Figure 5: Unemployment rates of female Roma and non-Roma in CSEE, 2011 (%)



What is perhaps of more interest than this well established 'fact' of Roma disadvantage is to consider how this differs from country-to-country and between genders. Examination of the Roma/non-Roma ratio of unemployment rates provides a clear picture of how the relative situation of Roma varies across country and sex (figure 6). For the most part, the relative disadvantage of women – as measured by the ratio of unemployment rates – is greater for Roma women. Exceptions are provided by Macedonia (where the ratios are the same for men and women), Croatia and Serbia, however, here too the difference is slight. For both men and women, in most countries, the ratio is close to two. That is, in most countries in the region, Roma are around twice as likely as their non-Roma neighbours to be unemployed. Exceptions are provided by Albania, where the ratio is close to one, and in Croatia and above-all Czech Republic where it is significantly higher, although, as regards the latter country, the high ratio arises from the very low unemployment rates

<sup>5</sup> Recall that the UNDP/WB/EC regional Roma survey 2011 was carried out amongst vulnerable Roma communities and amongst non-Roma living in close proximity to these. The sample is therefore not – nor is it intended to be nationally representative in terms of labour market (and other indicators) as a whole. Rather, the purpose is to be able to compare the situation of members of Roma and non-Roma communities living in 'similar' circumstances.

recorded amongst non-Roma rather than arising due to an extraordinarily high unemployment rate amongst Roma<sup>6</sup>.



#### Figure 6: Ratio of Roma to non-Roma unemployment rates, 2011

**Source:** Calculated from UNDP/WB/EC regional Roma survey2011.

However, the unemployment rate is a problematic indicator for assessing the labour market situation of Roma, particularly in making comparisons over time and space. It can be argued that the jobless rate – defined as the ratio of those not in employment or education to the relevant population - may be a more informative, or at least a useful complementary, indicator to unemployment rates for several reasons<sup>7</sup>. Amongst other things:

- the ILO defined unemployment rate implies a rather restricted definition of the labour market;
- it does not necessarily provide an accurate picture of the size of labour market problems as they affect specific groups since it excludes all those who drop out of the labour market, and/or decide to do 'other things' due to their poor labour market prospects – the socially excluded or discouraged; and,

<sup>6</sup> Thus, in absolute terms – that is, in terms of the percentage point difference in unemployment rates between Roma and non-Roma living in their proximity – the gap in unemployment rates in the Czech republic is 9 percentage points less than in Slovakia for men and only 2.7 percentage points more for women. Here, as elsewhere, it is important to be clear about what is being compared in order to avoid any misinterpretation of the meaning of the statistics presented. The issue of the absolute vs. the relat ive gap is returned to below in the discussion of the decomposition of the Roma/ non-Roma gap in employment opportunities.

<sup>7</sup> This has led the World Bank (2006) to employ the jobless rate as an additional indicator of the youth labour market situation in their flagship report on youth in the world economy. The OECD also now reports information on this indicator, calling it the NEET (not in employment or education or training) rate. See, for example, O'Higgins (2010b) for a more detailed discussion of why this indicator is useful in the context of youth labour markets.

 in the present context, definitional differences across surveys affecting unemployment, but not joblessness, make temporal comparisons on unemployment rates problematic<sup>8</sup>.

Thus, although not perfect, the jobless rate is used as the principal indicator of difficulty in labour market access for the remainder of the paper.

Similarly to unemployment rates, jobless rates are much higher amongst Roma than their non-Roma neighbours (figures 7 and 8), however, the relative disadvantage of women is not nearly so strong using this indicator (figure 9). Also the cross-country differences are somewhat attenuated particularly at the extremes. A Roma in the Czech Republic is 'only' around three times as likely as a non-Roma to be jobless<sup>9</sup>.



Figure 7: Jobless rates of male Roma and non-Roma in CSEE, 2011 (%)

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.

**Notes:** 1) the jobless rate is calculated on the working age (15-64) population 2) the jobless rate is defined as the proportion of the gender/ethnic specific population which is neither in education nor employment.

<sup>8</sup> Although both are affected by potential differences in the definition of employment. Efforts have been made to minimize this.

<sup>9</sup> Indeed, an additional advantage of using the jobless rate here, concerns differences in the nature of Roma (and consequently also non-Roma) samples in different countries. For example, Roma in Slovakia are predominantly found in rural areas, whereas in the Czech republic, there is a higher proportion of urban residents. Thus, examination of jobless rates removes some of the 'noise' from the figures and provides an intuitively more accurate picture of the labour market situation of Roma and non-Roma living in their proximity.



#### Figure 8: Jobless rates of female Roma and non-Roma in CSEE, 2011 (%)

**Source:** calculated from the UNDP/WB/EC regional Roma survey 2011.



#### Figure 9: Ratio of Roma to non-Roma jobless rates, 2011 (%)

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.

Examination of joblessness by age suggests that although the prevalence of joblessness – for both Roma and their non-Roma neighbours - is greatest amongst older workers (figure 10), the largest gap in opportunities arises for young people (figure 11).



#### Figure 10: Jobless rates by age, CSEE 2011 (%)

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.







Turning to joblessness by education, one may observe that - for both Roma and non-Roma living in their proximity – jobless rates fall as the level of education rises; however, observe also that although joblessness is greater amongst Roma than non-Roma at all levels (figure 12), the gap is greatest at higher levels of education

(figure 13). Another way of looking at this is to state that the returns to education, in terms of the reduction in joblessness, is lower for Roma than for non-Roma, a point which will be returned to below.



#### Figure 12: Jobless rates by education, CSEE 2011 (%)

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.



#### Figure 13: Ratio of Roma/non-Roma jobless rates by education, CSEE 2011

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.

#### 2.2. Employment

#### **Quantity of employment**

Perhaps the most reliable indicator for the state of the labour market facing Roma and their non-Roma neighbours is the employment rate. Increasingly this is used as the base indicator for targeting in the EU, as with, for example the Lisbon 2020 targets. Examination of employment rates, confirms the general picture of Roma disadvantage, particularly for Roma women (figures 14 and 15) although the ranking of countries by the Roma/non-Roma ratio (figure 16) suggests that Croatia is the poorest performer for both men and women, and, as with joblessness, Albania is the 'best'. As with unemployment rates, the national averages are, with the exception of Hungary, Slovakia and Moldova, fairly close to the non-Roma percentages.



Figure 14: Employment rates of male Roma and non-Roma in CSEE, 2011 (%)

**Source:** Roma and non-Roma employment rates are calculated from the UNDP/WB/EC regional Roma survey 2011; National averages are drawn from Eurostat (Czech Republic, Slovak Republic, Hungary, Bulgaria, Romania, Croatia and Macedonia; epp.eurostat.ec.europa.eu) and ILO-KILM (Bosnia & Herzegovina, Serbia & Montenegro, Albania and Moldova; www.ilo.org) databases.

Notes: 1) the employment rate is calculated on the working age (15-64) population
2) the employment rate is defined as the proportion of the gender/ethnic specific population which is in employment.
3) National employment rates are the annual average for 2011 except for Bosnia &Herzegovina (2010) and Serbia & Montenegro and Albania (2009).
4) The 'National' averages for Montenearo and Serbia are in both cases the average for the two

4) The 'National' averages for Montenegro and Serbia are in both cases the average for the two countries taken together.



#### Figure 15: Employment rates of female Roma and non-Roma in CSEE, 2011(%)





#### Figure 16: Ratio of Roma/non-Roma employment rates, CSEE 2011

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.

Looking at employment rates by age, the biggest gap arises for prime age adults (aged 25-54); the relatively small difference in the employment rates amongst young Roma and non-Roma (figure 17) however, largely reflects the relatively low educational participation rates of young Roma (figure 18). With the exception of Montenegro, between 50 and 60 percent of young non-Roma are still in education; save for Hungary, young non-Roma are more than twice as likely as young Roma to participate in education and, in the case of Albania and Moldova, they are around

five times as likely to participate. Thus, low employment rates amongst young non-Roma depend primarily on the fact that most young people are still in education throughout most of their youth, low employment rates amongst young Roma is largely accounted for by their high rates of joblessness shown above – a much less positive phenomenon.



Figure 17: Employment rates by age of Roma and non-Roma in CSEE, 2011 (%)

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.



Figure 18: Educational participation rates of 15-24 year olds in CSEE, 2011 (%)

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.

**Notes:** 1) the educational participation rate is calculated on young people aged between 15 and 24. 2) the educational participation rate is defined as the proportion of young people who are still in education One potential explanation for the low level of educational participation amongst young Roma is suggested by an examination of employment rates by education (figure 19). These reflect the relatively low returns associated with higher levels of education for those Roma who do stay on in school. For Roma, employment rates range from a little under 20% for those with no formal schooling to 60% for those with post-secondary education – a difference of just over 40 percentage points. For the non-Roma population living in close proximity to interviewed Roma, the analogous range of employment rates goes from 21% to 71% - an increase of 50 percentage points. Again, at least as far as the chances of finding employment is concerned, education seems to exacerbate rather than reduce employment differences.



Figure 19: Employment rates by education of Roma and non-Roma in CSEE, 2011 (%)

**Source:** Calculated from the UNDP/WB/EC regional Roma survey 2011.

Obtaining employment is not, or at least should not be, the only issue of concern. Roma are also disadvantaged when it comes to a consideration of the quality of employment for those who do find work. Recently the ILO has put increasing emphasis on the concept of Decent Work as a goal for societies to work towards. Several indicators may be employed to look at the quality of employment once obtained. One principal indicator concerns the incidence of informal employment. Typically, informal employment involves lower pay and the absence of any kind of employment, health and/or safety protection<sup>10</sup>.

<sup>&</sup>lt;sup>10</sup> There are difficulties and variations in the definitions of informal employment. In part, this explains the adoption by the ILO of the concept of vulnerable employment which has an unequivocal definition, if not meaning, across countries. In common with the convention in this region, here informal employment isdefined as employment for which social contributions are not paid.





**Source:** Calculated on the basis of the UNDP/WB/EC regional Roma survey 2011.

**Notes:** The prevalence of informal employment is calculated as the percentage of workers aged 15-64 who are not paying health or pension contributions.



#### Figure 21: Prevalence of informal employment amongst women in CSEE, 2011 (%)

**Source:** Calculated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Throughout the region, the prevalence of informal employment is much higher for Roma than for non-Roma living in their proximity (figures 20 and 21). Moreover, whereas amongst the non-Roma population, informal employment is much more common amongst men than women, for Roma, the reverse is very often true. The consequence of this is that, with the exception of the Czech Republic and Slovakia, the Roma/non-Roma ratio of the prevalence of informal employment is higher, often much higher, for women than men (figure 22). In Croatia, which is characterized by a very low prevalence of informal employment amongst majority workers, a female Roma employee is more than twelve times as likely as their non-Roma counterparts, for men the ratio is 'only' just over six-to-one.



Figure 22: Roma/non-Roma ratio of prevalence of Informal employment in CSEE, 2011

**Source:** Calculated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Also, the wages received by Roma are lower than their non-Roma counterparts. Roma men earn on average between around 45% (Serbia) and 80% (Slovakia) of the male non-Roma wage (figure 23). Roma Women are doubly disadvantaged; median Roma female earnings are around between one- (Montenegro) and two-thirds (Czech Republic, Bulgaria and Moldova) of female non-Roma median wages (figure 24) and between just over 30% (Bosnia & Herzegovina) and just under 60% (Moldova) of male non-Roma average wages. Female non-Roma earn on average 63% of the median male non-Roma wage, whilst for Roma women this percentage is only 54%. Of course, once again, one needs to take care in the cross-country comparisons; the situations in say Albania and Slovakia look, on this basis, to be relatively good for Roma minorities, however, one should recall that employment rates and wages are both relatively low in these countries.





**Notes:** The median monthly wage for Roma (and non-Roma) men is reported as a percentage of the male non-Roma median monthly wage for employees.





**Source:** Calculated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Source: Calculated on the basis of the UNDP/WB/EC regional Roma survey 2011.



#### Figure 25: Roma/non-Roma ratio of median wages, CSEE 2011

**Source:** Calculated on the basis of the UNDP/WB/EC regional Roma survey 2011.

**Notes:** The figure reports the ratio of median monthly wages for male and female Roma employees to their non-Roma (gender-specific) counterparts.

#### Figure 26: Roma/non-Roma ratio of median wages by educational attainment, CSEE 2011



**Source:** Calculated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Once again, part of the explanation surely lies in the lower average educational attainment of Roma, but this is clearly not the full story. Figure 26 reports the ratio of median wages by education for Roma and non-Roma. Even more than before care needs to be taken in interpreting these numbers. Self-reported wage information is notoriously unreliable; the figure is also based on PPP conversion of wage rates; and, the heavy concentration of Roma at low levels of education and of non-Roma at (relatively) high levels, means that there are very few non-Roma with no educational qualifications and very few Roma with post-secondary qualifications in the sample making comparison of these groups in particular, problematic, However, the figure does show that the ratio of Roma/non-Roma wages does improve with the level of education, particularly for women, but the gap by no means disappears.

#### 2.3. Concluding comments

The main points arising from the discussion in this section are:

- Roma labour market disadvantage is ubiquitous in the region; in all countries Roma face employment rates and wages which are lower and unemployment and jobless rates which are significantly higher than their non-Roma counterparts – even those living in relatively vulnerable conditions.
- The extent of Roma disadvantage varies significantly across countries, however, the simple descriptive statistics presented in this section – whilst suggestive – do not, in themselves, provide a basis for comparing the relative performance of different countries.
- The evidence above tends to suggest again with much cross-country variation – that female Roma are in particularly vulnerable position facing a double disadvantage and, moreover, face a more significant barrier to effective labour market integration than their female non-Roma counterparts.
- The analysis thusfar does not allow us to say very much about what is driving Roma disadvantage. Although the persistence of significant relative disadvantage also amongst Roma with higher levels of educational attainment suggests that raising educational levels has not yet been but also will not be sufficient in itself to resolve the additional difficulties faced by Roma in the labour market.

In the next section, the analysis of trends in employment, joblessness and educational participation over the period 2004-2011 allow consideration of what, if any, improvements in the relative labour market situation of Roma in the light of the 'Roma Decade' and the periods of growth and recession which have characterized the last eight years. The descriptive analysis presented here also provides a context for the interpretation of the more detailed analysis of the extent and causes of Roma labour disadvantage in section 5.

3

## Changes in the situation of Roma between 2004 and 2011

Although differences in data collection and variable definition make comparisons with the 2004 Regional Roma survey problematic, it is worth having a look at changes in the main indicators over this period, in order to have some sense of where improvements (or not) have occurred in the situation of Roma. If one looks at employment rates, one can observe that almost everywhere things have disimproved for both Roma and their non-Roma neighbours (figures 27 and 28), despite positive economic growth recorded over the period (figure 2 above); only male Montenegrin Roma and female Bulgarian Roma saw a (slight) increase in employment rates over the period. Possibly of more concern, the Roma/non-Roma ratio of employment rates also worsened over the period with the exception of Bulgaria, Albania, and, for women Serbia.



#### Figure 27: Change in Employment rates of male Roma and non-Roma and the Roma/non-Roma ratio 2004 -2011

**Source:** Calculated from the UNDP Regional Roma survey 2004 and the UNDP/WB/EC regional Roma survey 2011.

Notes: 1) definitions are as before.
2) The ratio is defined so that equality = 100 (as opposed to 1 used above) in order to facilitate comparability.

A partial explanation for this, may be that – in common with findings for other countries – the recession tended to exacerbate existing labour market inequalities – hitting already disadvantaged groups hardest<sup>11</sup>.



Figure 28: Change in Employment rates of female Roma and non-Roma and the Roma/non-Roma ratio 2004 -2011

**Source:** Calculated from the UNDP Regional Roma survey 2004 and the UNDP/WB/EC regional Roma survey 2011.

At the same time, however, although jobless rates increased slightly almost everywhere, the Roma/non-Roma ratio of jobless rates improved - that is it fell - more or less across the board, marking a relative improvement in the situation of Roma compared to non-Roma (figures 29 and 30). The explanation of these two apparently contradictory phenomena: a relative dis-improvement in Roma employment rates and an improvement of the Roma situation when measured in terms of jobless rates is reconciled when one recognises the increased Roma educational participation over the period which has occurred in all countries (figure 31) – taken together with the fall in educational participation amongst young people in majority communities covered by the survey, the result has been a marked reduction in the disparity between Roma and non-Roma educational participation rates amongst young people (aged 15-24). The Roma/non-Roma disparity in educational participation is far from being removed – as was shown above in figure 18 - however, the increased educational participation of 15-24 year old Roma is certainly a step in the right direction. At the same time, this improvement has not yet lead to any marked benefits in terms of the relative employment prospects of Roma, although in the majority of countries, there has been a, sometimes substantial, narrowing of the Roma/non-Roma wage gap.

<sup>&</sup>lt;sup>11</sup> See, for example, Vaughan-Whitehead (2011) and contributions there-in on the effects of the recession in a number of EU countries. One of the general findings of the study was that the recession has tended to exacerbate existing inequalities.



#### Figure 29: Change in Jobless rates of male Roma and non-Roma and the Roma/ non-Roma ratio 2004 -2011

#### Figure 30: Change in Jobless rates of female Roma and non-Roma and the Roma/ non-Roma ratio 2004 -2011



**Source** Calculated from the UNDP Regional Roma survey 2004 and the UNDP/WB/EC regional Roma survey 2011.

**Source:** Calculated from the UNDP Regional Roma survey 2004 and the UNDP/WB/EC regional Roma survey 2011.

**Notes:** 1) definitions are as before. 2) The ratio is defined so that equality = 100 (as opposed to 1 used above) in order to facilitate comparability.

#### Figure 31: Change in Educational participation rates of 15-24 years old Roma and non-Roma and the Roma/non-Roma ratio 2004 -2011



**Source:** Calculated from the UNDP Regional Roma survey 2004 and the UNDP/WB/EC regional Roma survey 2011.

**Notes:** 1) definitions are as before. 2) The ratio is defined so that equality = 100 (as opposed to 1 used above) in order to facilitate comparability.



#### Figure 32: Change in ratio of Roma/non-Roma wages 2004 - 2011

**Source:** Source: calculated from the UNDP Regional Roma survey 2004 and the UNDP/WB/EC regional Roma survey 2011.

How then should these trends be interpreted in the light of the Roma Decade and the ongoing recession? On the one hand, with the exception of Romania, the two surveys suggest a fall in the educational participation of non-Roma between 2004 and 2011.

The Eurostat database records educational participation rates (amongst 15-24 year olds) over the period - albeit with a broader definition of educational participation – for four of these countries (Bulgaria, Romania, Croatia and Macedonia). This shows an increase in educational participation at the national level of between 4 and 17 percentage points<sup>12</sup>. The difference amongst the survey samples may arise for several reasons, but on the plausible assumption that the factors depressing the recorded educational participation rates for non-Roma are also driving down the recorded participation rates of Roma<sup>13</sup>, the recorded increase in the educational participation of Roma really represents a major step forwards, and may well understate the true extent of the increased participation. It is also plausible to suggest that the incentives introduced in a number of countries to encourage increased participation in education as part of Roma decade initiatives, have been driving this increased educational participation.

On the other hand, there is no recorded improvement in the employment rates of Roma. Increased Roma participation in education has had a direct numerical impact on the numbers of Roma jobless – since being in education they are no longer counted as jobless, but at the same time has not yet born fruit in terms of the longer run employment prospects. As a corollary to this, one might add, that the direct creation of employment through Active Labour Market Programmes introduced under the Roma Decade have not had a similar positive impact on the employment prospects of Roma. This too is plausible if for no other reason than that the initiatives introduced under the Decade have been relatively small compared to the size of the problem.

The lack, as yet, of rigorous impact evaluations<sup>14</sup> of the measures introduced under the Decade mean that one cannot go further so as to directly attribute the changes to policy initiatives, however, the analysis presented in this section is certainly supportive of the following notions:

 that initiatives aimed at increasing the educational participation have been accompanied by rising educational participation amongst Roma

<sup>&</sup>lt;sup>12</sup> It might be noted that the country showing the largest increase, Macedonia, actually only covers the period 2006-2011 since data is not available before then.

<sup>&</sup>lt;sup>13</sup> For example, two possible explanations concern a) slight differences in the definition of educational participation across surveys; and, the different timing of the surveys. Regarding the latter, the 2004 survey was undertaken in December and would have overlapped with the Christmas holidays, whereas the 2011 survey was undertaken in May/June.

<sup>&</sup>lt;sup>14</sup> As opposed to outcome assessments or evaluations based on stakeholder interviews and/or other 'soft' data, of which there are many.

in the 15-24 year old age-group – which in turn suggests that they have been relatively successful in encouraging Roma educational participation;

- that employment programmes for Roma, whether or not these have enhanced the employment prospects of the participants, have not had a significant impact on the employment problems of Roma as a whole in the region, which as noted above, is not startling given that they have tended to be relatively small scale programmes; and,
- the concomitance of higher educational participation amongst young people and lower employment rates amongst adults suggests that the beneficial impact of rising Roma educational participation has yet to feed through into the labour market.

The next section is largely concerned with the extent to which differences between Roma and non-Roma labour market experiences maybe be accounted for by differences in their characteristics (apart from ethnicity) and in particular differences in levels of educational achievement. This will inter alia throw light on the extent to which increasing educational attainment amongst Roma is likely to resolve problems of labour market integration. That is, whether, and to what extent there is likely to be a significant long-run positive impact of rising Roma educational attainment on their employment and wage prospects.



# Towards explaining disadvantage

The paper thusfar has documented the extensive disadvantage faced by Roma on the labour market in CSEE and the relative lack of improvement on the Roma's labour market situation since 2004; the obvious question which arises is why? One important issue, mentioned in the introduction, concerns the extent to which differences in the labour market experiences of Roma and non-Roma are due to the relative lack of education of the Roma on the one hand, and the extent of discrimination in employment and wages experienced by the Roma on the other. The proponents of either of these explanations tend to not be politically disinterested and thus posed as mutually exclusive. Of course this is not the case; Roma certainly do have lower levels of education than non-Roma, but also, it was shown above that the returns to education - in terms of improved employment and wage prospects - appear to be smaller for Roma than non-Roma – or at least do not lead to any significant reduction in the Roma/non-Roma gaps in employment and wages<sup>15</sup>. Moreover, the two factors tend also to be mutually reinforcing; if the benefits of education are lower for Roma, then it is not surprising that Roma tend to invest less time and energy in acquiring higher educational levels<sup>16</sup>.

The estimation of simple Mincerian returns to education equations allows a first look at this question (Tables 1 and 2). Table 1 reports the estimated effects of ethnicity and sex on the probability of employment and the wages of the employed for the region as a whole controlling for differences in education, (potential) experience, and country<sup>17</sup>. That is, assuming that **the relative returns to education**<sup>18</sup> are the same across countries, ethnicity and sex.

Similarly for wages, a two-equation maximum likelihood model of employment determination and (the natural logarithm of) wages is estimated of the estimation which seeks to identify the average effects of ethnicity and sex on wages controlling for non-random selection into employment<sup>19</sup>.

<sup>16</sup> That is, even in a rigidly neo-classical model of human capital investment, in the context of lower returns, it is rational for Roma to spend less time in school. O'Higgins (2010a) argues this to be the case on the basis of differences in primarily absolute returns to education whilst Trentini (2011) has found also lower relative rates of return in Bulgaria.

<sup>17</sup> Full results are included in the appendix.

<sup>&</sup>lt;sup>15</sup> This is a consistent finding in the literature. See, for example, Ivanov et al. (2006) and more recently, Trentini (2011) who applies a very similar approach to O'Higgins (2010a) to the analysis of Roma and Turk minorities in Bulgaria.

<sup>&</sup>lt;sup>18</sup> For the wage equation, the parameters on educational level may be interpreted as the percentage increase in monthly wages accruing to those with a specific characteristic compared to those without that characteristic i.e. the default category. For the employment probability equation, the coefficient values should be interpreted as the percentage point increase in the probability of employment accruing to those with the specified characteristic.

<sup>&</sup>lt;sup>19</sup> I report only the wage equation results in the table. Although similar in spirit – as well as in parameter values – the 'employment selection' equation is not identical to the previously estimated employment probability equation since the selection here is into dependent employment with an observed wage. That is, for the estimation of wages, the sample is restricted to those who are either in dependent employment with a usable observed wage.

These estimates give us a summary measure of the gaps in the likelihood of employment and the wages of the employed, controlling for educational attainment and potential experience. The table supports the general impression arising from the descriptive analysis above:

- Roma are less likely to be employed and face lower wages in employment than non-Roma, even once one controls for differences in education and (potential) experience;
- The significant coefficient and negative coefficient on the interaction between Roma and female dummies in the employment equation supports the idea that the disadvantaged position of women, accruing because of their ethnicity, is greater than for men, at least as regards employment; for wages the opposite appears to be the case, wages are lower for female Roma than female non-Roma but the relative disadvantage seems to be greater for men, although the results here are weaker and the estimates for women are more susceptible to the type of problem which will be discussed below.

	Emplo	yment	N	/ages
	% point change in probability	Std. Error	% change in wages	Std. Error
Roma	08	.024	21	.029
Female	20	.027	.04	.032
Roma and Female	08	.021	.13	.039
n	233	366		8422
Pseudo R2	.1	6		
Wald test of significance				2178.76
<b>Source:</b> Estimated on the basis of the		and Doma curves	2011	

### Table 1: Estimation of employment probability and (natural logarithm) wage returns to education

**Source:** Estimated on the basis of the UNDP/WB/EC regional Roma survey 2011.

**Notes:** 1) statistical significance is indicated as follows – **italic type** indicates p < 0.10; bold type indicates p < 0.05, **bold and italic type** indicates p < 0.01.

2) Models are estimated for the adult 25-64 population.

3) Monthly wages are adjusted for PPP to produce broadly comparable cross-country values. 4) the employment probability is estimated by profit with clustered (across country) standard errors. The reported coefficients in the form of 'marginal effects' that is, the change in the employment probability occurring due to the possession of a specific (dichotomous) characteristic. 5) Estimates for wages based on two equation model with MLE estimation of sample selection and bootstrapped errors.

6) models include country fixed effects and controls for potential experience and educational attainment - detailed results given in the appendix.

The results above are based on a series of assumptions which are not likely to be valid in practice. In what follows we will gradually relax some of these in order to better understand the sources of difference in employment and earnings between Roma and non-Roma living in their proximity. In the first place, the results reported in table 2, relax the assumptions that returns to education are equal for Roma and non-Roma and for women and men. The table reports the results of analogous estimations to those in table 1, however this time, separate equations are estimated for males and females and for Roma and non-Roma. In this case the interest is in the (variable) returns to education and experience observable across sex and ethnicity.

		Emplo	oyment			Wa	Wages			
	М	ale	Fer	Female		Male		Female		
	Roma	Non- Roma	Roma	Non- Roma	Roma	Non- Roma	Roma	Non- Roma		
primary education	.021	.028	.041	.053	0.091	-0.057	0.112	0.309		
lower secondary	.053	.062	.074	.120	0.275	0.319	0.297	0.182		
upper secondary	.187	.148	.308	.300	0.364	0.489	0.203	0.060		
post-secondary	.322	.202	.583	.540	0.444	0.813	-0.058	0.201		
Experience	.011	.026	.015	.034	0.004	-0.005	-0.027	-0.039		
<b>Experience</b> <sup>2</sup>	000	001	000	001	0.000	0.000	0.001	0.001		
n	8114	3341	8461	3450	3509	826	1724	1301		
Pseudo-R2	0.07	0.12	0.09	0.18						
Wald test					818.21	554.10	341.51	449.68		

### Table 2: Estimation of employment probability and (natural logarithm) wagereturns to education using separate equations by sex and ethnicity

**Source:** Estimated on the basis of the UNDP/WB/EC regional Roma survey 2011.

**Notes:** 1) statistical significance is indicated as follows – italic type indicates p < 0.10; **bold type** indicates p < 0.05, **bold and italic type** indicates p < 0.01.

2) Models are estimated for the adult 25-64 population.

3) Monthly wages are adjusted for PPP to produce broadly comparable cross-country values. 4) the employment probability is estimated by profit with clustered (across country) standard errors. The reported coefficients in the form of 'marginal effects' that is, the change in the employment probability occurring due to the possession of a specific (dichotomous) characteristic. 5) Estimates for wages based on two equation model with MLE estimation of sample selection and bootstrapped errors.

6) Models include country fixed effects - full results given in the appendix.

These results suggest that it is not differences in the returns to education which are driving the unexplained Roma employment and wage gaps identified above – indeed amongst men, the employment 'returns' to education seem to be greater for Roma than non-Roma living in their proximity, but rather there appears to be significantly better returns to experience for non-Roma; this concerns both wages and employment and is true for both males and females.

Thusfar, the results are broadly in line with what has been found in previous studies of this issue. However, they still do not tell us very much about the source of Roma disadvantage and they are still based on a number of guestionable assumptions. Kahanec & Yuksel (2010) have sought to throw light on this issue by analysing the situation of Roma and Internally Displaced Persons (IDPs) in four countries in the region. Their analysis suggests a similar 'unexplained' gap in employment and wages - using a framework similar to that employed above to derive the results reported in table 1 with constant returns to education across groups – for both Roma and IDPs. On this basis, Kahanec and Yuksel argue that it is not educational differences which is driving the gap but rather the vulnerability of these groups at the margins of the mainstream labour market. IDPs are in most respects more similar to majority populations than they are to Roma. They are however, economically marginalized and as such find themselves, as the Roma do, more likely to be employed in the informal sector than members of majority populations. By implication, it is this marginalization, characterized by a concentration of employment in the informal sector which is driving the difference, rather than educational attainment. Their analysis is suggestive rather than conclusive, however, it does provide a line of inquiry pursued below.

In principle, one may use this type of parametric estimation technique as a basis for drawing inferences about discrimination. Specifically, one may decompose the differences in employment probability and wages into a part which is explained by differences in individual characteristics (education and experience) and a second which is explained by the differing returns to characteristics. The first part of the wage and employment gaps concerns the difference in earnings and employment opportunities which are due essentially to the lower levels of education of Roma, whereas the second part is due to 'unexplained' differences between the two groups and is generally attributed to discrimination. This is the well known Blinder-Oaxaca decomposition originally proposed independently by Blinder (1973) and Oaxaca (1973) for the identification of gender discrimination in wages. Extension to the non-linear case was proposed by inter alia Bauer and Sinning (2008). However, this type of framework is still based on some questionable assumptions. First, it assumes that education attainment is exogenous to employment and wages, yet one would expect people to choose their participation at least in part, on the basis of its expected usefulness in finding employment and/or in raising wages. Second it also assumes that returns to education are constant across countries. Third, and perhaps most importantly, the methodology assumes the existence of common support – or, to be more precise, assumes that the estimates of returns are valid outside the field of common support. In other words, the approach presumes that Roma and non-Roma are similar across the observed characteristics used to derive estimates of returns to education. Given the huge disparity in educational levels between Roma and non-Roma, this is clearly not the case here.

O'Higgins (2010a) has proposed and estimated a recursive model controlling for endogeneity in educational choices (as well as selection into employment); the results confirm the existence of a substantial 'unexplained' gap in employment and wages; moreover, the paper finds lower absolute wage returns to education for Roma in South Eastern Europe even controlling for the endogeneity of educational choices. That is, considering its effects on both employment and wages together, education does not lead to a closing of the Roma/non-Roma wage gap. However, these estimates again assume constant returns to education across countries. A similar model has also been applied to Bulgaria by Trentini (2011). She also finds evidence of discrimination, and, in this case, a strong difference in relative returns to education, implying that, at least in that country, education tends to widen rather than close the wage gap. Milcher (2011) and Milcher & Fisher (2011) have relaxed the assumption of constant returns to education across countries, applying parametric decomposition techniques on a country-by-country basis using two slightly different techniques. These studies also find evidence of wage discrimination in some countries, although the precise estimates – and their statistical significance - vary both across countries but also according to the methodology (including the weighting) employed. Overall, however, the results point to strong evidence for the existence of labour market 'discrimination' or more precisely, differences in employment probabilities and wages between Roma and non-Roma which cannot be explained by differences in individual characteristics other than ethnicity. Finally, decomposition techniques applied to the Macedonian sample of the UNDP/WB/EC regional Roma survey 2011 by O'Higgins (2011) once again finds evidence of unexplained Roma/non-Roma wage differences, but, more importantly, identifies the main source of this 'discrimination' in terms of the involvement of the Roma in the informal sector (as opposed to the occupational or industrial structure of employment per se). This provides a more formal confirmation of the implications of Kahanec & Yuksel's (2010) results – that it is involvement in the informal sector – or in other words, difficulties in entering mainstream formal employment, which is driving the unexplained Roma/non-Roma wage differences. However, all of these papers employ parametric techniques using some variation of the Blinder-Oaxaca methodology. A major problem with this type of approach is that it assumes the existence of common support, that is broadly similar characteristics, for the two groups under examination. In fact, Roma and their non-Roma neighbours differ greatly precisely in their levels of educational attainment. As was noted above, despite improvements in educational participation, Roma are still heavily concentrated in the lower ends of the educational attainment scale, whilst, non-Roma on average have much higher levels of attainment and are almost absent from the lowest 'no education' level. The methodology employed here, explicitly takes this issue into account.

Recently, several different non-parametric approaches have been suggested based on matching. In particular, the method proposed by Ñopo (2008) is used here. This involves person-to-person matching (with re-sampling) which bases the estimates of explained and unexplained components on observed differences in outcomes for which there is common support<sup>20</sup>.

More precisely, the approach involves one-to-many 'perfect' matching. An individual is taken from the Roma sample and then the person's outcome - in terms of employment or wages - is compared to average (i.e. the mean) of all those in the non-Roma sample with the same characteristics. The process is repeated (with replacement in the non-Roma sample) until all the Roma sample have been considered. At the end some Roma may not have found matches, as indeed some non-Roma may not have been included in the comparisons due to their lack of shared characteristics; these two groups are outside the common support. As a consequence, the mean difference in Roma/non-Roma outcomes can be decomposed into three explained and one 'unexplained' components comprising<sup>21</sup>:

- Differences arising between Roma for whom there is common support and those for whom there is not;
- Differences arising between non-Roma for whom there is common support and those for whom there is not;
- Differences arising between Roma and non-Roma within the range of common support due to differences in their characteristics; and,
- Differences which cannot be explained by any of the three elements a. c. above the unexplained component.

<sup>&</sup>lt;sup>20</sup> It is precisely this characteristic which makes the methodology useful here. One may observe that also other potential matching approaches – such as propensity score matching which is otherwise an obvious alternative candidate for use in this type of exercise, is also extremely susceptible to the failure of common support since persons with similar propensity scores may have - and in this case almost certainly will have – quite different (educational) characteristics.

<sup>&</sup>lt;sup>21</sup> For a more complete - and technical - explanation, the reader is referred to the original Nopo (2008) article.

This last element provides an estimate of 'discrimination' analogous to that estimated parametrically with the Blinder-Oaxaca type method, however, it is explicitly based only on individuals with shared characteristics; for whom there is 'common support'. The method explicitly limits comparisons to those with the same characteristics (other than ethnicity), making no assumptions about effects outside the field of observation; the estimate of discrimination is based on the notion that those with the same characteristics (apart from ethnicity) should have the same employment and wage prospects. The method also allows a simple examination of unexplained differences across individual characteristics which allow some analysis of the factors driving discrimination. The major drawback with the method is the so-called 'curse of dimensionality'. In common with other non-parametric and semiparametric approaches, as the number of characteristics forming the basis of the 'common support' is increased the number of matches is correspondingly reduced reducing the field of common support. This essentially means that, the number of base characteristics – or controls – must be relatively limited. In practical terms, the same basic characteristics were included as in the parametric estimations reported above, with controls for country, education and (potential) experience.



#### Figure 33: Estimation of unexplained differences in employment using nonparametric matching

**Source:** Estimated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Notes: 1) the figure reports the results of estimating the explained and unexplained components of wages using the non-parametric matching technique proposed by Nopo (2008).
2) the height of each bar is the percentage point gap in the (sex and country specific) mean employment rate.

3) On occasion the estimates of the 'unexplained' portion are either above 100% or below 0% of the total gap; in these cases the 'unexplained portion was set to 100% (or 0%) as relevant.

4) more detailed numerical results are reported in the appendix.

The results of the basic exercise for employment and wages are shown graphically

in figures 33 and 34 respectively<sup>22</sup>. The height of the bar for each country (and sex) represents a comparable measure of the size of the gap in each case, and the red part of the bar represents the size of the unexplained part of the gap. The three 'explained' components of the employment and wage differences are added together for visual comparison. The figures reflect the substantial cross-country variation in both the size of the employment and wage gaps and the extent to which this can be attributed to differences in education and experience between Roma and non-Roma. In general the size of the gap in employment and wages not attributable to differences in education and experience is substantial. In the region as a whole, over 50% of the gap in employment opportunities for males and around 40% of the gap for females is not explainable in terms of observed differences; similarly, for wages around two thirds of the gap for males and twofifths for women is not explained by education and experience. At the country level, the unexplained gaps in employment are statistically significant at 1% in all countries excepting Albania, Bulgaria, Montenegro and Romania (for men) and Albania, Montenegro, Macedonia (statistically significant at 10%) and Serbia for women. For wages, the estimated unexplained gaps are statistically significant at 1% for all countries excepting Hungary, Moldova and Montenegro (for men) and Croatia for women.





**Source** Estimated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Notes: 1) the figure reports the results of estimating the explained and unexplained components of wages using the non-parametric matching technique proposed by Nopo (2008).
2) the height of each bar is the gap between the mean wage of Roma and non-Roma expressed as a percentage of the (sex and country specific) mean Roma wage.
3) On occasion the estimates of the 'unexplained' portion are either above 100% or below 0% of the total gap; in these cases the 'unexplained portion was set to 100% (or 0%) as relevant.
4) more detailed numerical results are reported in the appendix.

Thus, the results show that **differences in educational level –and other individual characteristics - are not on the whole sufficient to explain the gap in employment opportunities and wages between Roma and non-Roma.** For both employment and wages, the Roma/non-Roma gap is larger for the women than for men, however, in both cases a smaller portion of the gap for females is unexplained so that over all, the size of the gap attributable to discrimination and other unobservable factors is similar for men and women. There is much variation across countries, both in the size of the gap and the portion of it not explainable by education and experience, however, the analysis suggests that across the region much still needs to be done to combat the substantial differential in opportunities facing Roma and that clearly raising the educational levels of Roma will not in itself be sufficient.

The decomposition can also be applied to individual characteristics. Figure 35 illustrates the results of this exercise for different educational levels focusing on wage differences. Here the issue of statistical significance becomes of central relevance.

The results suggest a serious problem with the returns to education at the lower and upper secondary levels. Estimates of discrimination at the extremes (the 'unexplained' gaps at 'no formal' and 'post-secondary' education levels) are not statistically significant for either men or women reflecting precisely the lack of common support at these levels of attainment. For women, there is a statistically significant 'unexplained' gap also at the primary education level, where the gap itself is also substantial. For men, the wage gap is smaller at this level of attainment and the unexplained component is not (quite) statistically significant at 10%. The existence of statistically significant 'unexplained' gaps at lower and upper secondary levels for both men and women confirms the findings and, above-all, the implications of the previous studies cited above; raising the educational levels of Roma will not by any means resolve the problem of the Roma/non-Roma gap in employment and wages.



#### Figure 35: Estimation of unexplained differences in wages by education level

**Source:** estimated on the basis of the UNDP/WB/EC regional Roma survey 2011.

**Notes:** 1) the figure reports the results of estimating the explained and unexplained components of wages by educational attainment using the non-parametric matching technique proposed by Ñopo (2008).

2) the height of each bar is the gap between the mean wage of Roma and non-Roma expressed as a percentage of the (sex and education specific) mean Roma wage.
3) On occasion the estimates of the 'unexplained' portion are either above 100% or below 0% of the total gap; in these cases the 'unexplained portion was set to 100% (or 0%) as relevant.
4) more detailed numerical results are reported in the appendix.

Next the role of location is examined (figure 36). Location appears to be important also in terms of the distribution of the unexplained gaps. The picture is also rather different formen and women. For men the main problem – in terms of the unexplained gap – arises in secondary major cities, whereas for women, the main problem seems to be connected to location in the capital. Interestingly, for both men and women, although the Roma/non-Roma wage gaps are larger in smaller towns and villages, the size of the '**unexplained**' portion of the gap is not. A more subtle point suggested by the figure is that there is considerable non-linear variation across different locations so that a simple urban/rural breakdown is likely to be misleading here.



#### Figure 36: Estimation of unexplained differences in wages by location

Source: Estimated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Notes: 1) the figure reports the results of estimating the explained and unexplained components of wages by educational attainment using the non-parametric matching technique proposed by Nopo (2008).
2) the height of each bar is the gap between the mean wage of Roma and non-Roma expressed as a percentage of the (sex and education specific) mean Roma wage.
3) On occasion the estimates of the 'unexplained' portion are either above 100% or below 0% of the total gap; in these cases the 'unexplained portion was set to 100% (or 0%) as relevant.
4) The figure excludes the estimates for females in unregulated areas; the estimate of the unexplained gap was both very much larger than the other estimated gaps and also not statistically significant – due to the lack of common support – and so simply impedes visual understanding of the implications of the figure.

5) detailed numerical results are reported in the appendix.

Finally, I report the results of the decomposition applied to wages in the formal and informal sectors (figure 37). This throws further light on the issue of marginalisation raised above. The wage gap is greater for women than men in both formal and informal sectors, but, for both men and women the gap is larger in informal than in formal employment. However, the unexplained portion of the wage gap is relatively small for males in informal employment and for females in both formal and informal employment. The implication is that it is selection into the informal sector – as suggested by the analyses of Kahanec & Yuksel (2010) and O'Higgins (2011) cited above which is driving the wage gap rather than 'discrimination' within informal employment itself. However, for males, there is also a substantial (and statistically significant) unexplained wage gap in the formal sector. This is supportive of the notion of the existence of significant labour market discrimination – or at least a substantial wage gap whose cause needs to be examined further – in the formal sector. This suggests that there is a gender based difference in the source of wage gaps; for Roma women, the main problem arises with selection into the informal sector, whereas for men, there are problems due both to selection into informal employment - albeit less serious than for Roma women - and also due to lower wages (not explained by education and experience) in formal employment.



#### Figure 37: Estimation of unexplained differences in wages by (in)formality

**Source:** Estimated on the basis of the UNDP/WB/EC regional Roma survey 2011.

Notes: 1) the figure reports the results of estimating the explained and unexplained components of wages by educational attainment using the non-parametric matching technique proposed by Nopo (2008).
2) the height of each bar is the gap between the mean wage of Roma and non-Roma expressed as a percentage of the (sex and 'formality' specific) mean Roma wage.
3) detailed numerical results are reported in the appendix.

One further question remains – the role of school quality. There are no direct indicators of this in the survey, however, information was gathered on whether individuals attended special schools for the disabled and whether they possessed basic computer skills; two rather indirect measures of school quality. The results of the decompositions undertaken for these indicators (not reported in full here due to their tentative nature) suggest that:

- a substantial unexplained wage gap remains also for men who did not attend special schools; and,
- the possession of computing skills reduces the size of the unexplained portion of the wage gap (although the total gap increases) for men and reduces the sizes of both the wage gap as a whole and the unexplained portion of it in the case of women. In both cases, a statistically significant unexplained portion remains.

This suggests that schooling quality is likely to be playing a role – particularly for women - in determining wage Roma/non-Roma differentials, however, the elimination of such differences in (imputed) school quality will not be sufficient in themselves to level the playing field for Roma.

5

# Conclusions and policy implications

This paper has examined in some detail the situation of Roma in the labour market and compared their experiences with non-Roma living in comparable situations across countries and time. The analysis is not very comforting for those who would have wished to see substantial gains accruing to Roma as a consequence of the Roma Decade. As the end of the Decade comes within sight, Roma still face extensive labour market disadvantage.

There have been gains; in particular, the participation of Roma young people (aged 15-24) in education has risen substantially since 2004 reflecting their greater participation in upper secondary and tertiary education, although the gap in educational participation at these levels is still very substantial. The evidence is thus supportive of the idea that initiatives to encourage educational participation at post-secondary and tertiary levels have been relatively successful in their primary aim.

However, such gains in educational participation have not been matched by any significant gains in employment and wages. Clearly such employment initiatives as have been introduced have not succeeded in coming to terms with the extent of the problem. One clear reason for this is that the scale of such initiatives has been small compared to the size of the problem. Since, rigorous impact evaluations have not been undertaken to date of these initiatives, it is impossible to say more about the effectiveness of specific schemes as regards their effects on the employment and wage prospects of participants.

In any event, although in the longer term one might expect the gains to accrue from the rising educational attainment levels of Roma, these are as yet not visible. Moreover, at present, huge differentials in Roma/non-Roma labour market opportunities remain and this study has clearly shown that the gaps cannot by any means be entirely explained by albeit large Roma/non-Roma differences in educational attainment. Thus, encouraging educational participation in itself will not resolve the problem. The analysis suggests – tentatively – that school quality may be playing a role, but here too, differences in schooling quality are not sufficient to explain the Roma/non-Roma gaps. The problem is not just one of employment, there is also the issue of the quality of employment. The study has clearly identified selection into informal employment as a key element in determining unexplained gaps in wages. This suggests that the increasing emphasis on encouraging business start-up through the provision of micro-credit observable in international circles – at

least in so far as this is supportive of employment creation in the informal sector – is not a useful approach. This may just encourage the marginalisation of Roma. On the other hand, initiatives such as the self-employment and business formalisation programme operated in Macedonia, would appear to be a more fruitful approach, although some difficulties arise with encouraging Roma to participate on such schemes. More generally, programmes aimed at promoting employment generation in the formal sector at least have the potential for raising both the employment and wage prospects of Roma than measures which, explicitly or implicitly, encourage informal employment.

In general, it is evident that the problems concerned with the effective labour market integration of Roma are multi-dimensional and action is needed on several fronts. The relative importance of different factors depend also on context (specifically, country and location) and gender. Raising educational attainment is an important element in this, but it is not in itself sufficient. The analysis here suggests that action to improve schooling quality, to support Roma employment in the formal sector and to combat discriminatory practices – present to greater and lesser degrees in both the formal and informal sector - are all likely to enhance Roma employment and wage prospects. However, more work needs to be done on identifying more precisely the underlying causes of these differentials and thus in finding adequate remedial measures. It is clear that the measures thusfar adopted have not been sufficient to erode Roma labour market disadvantage to any significant degree.

One central problem here in determining which initiatives have been, or are likely to be, more effective in improving the employment and wage prospects concerns the dearth of impact evaluation of initiatives introduced under the Roma Decade. If there is one clear policy recommendation to come out of this study, it is that, as I have been arguing for well over a decade, that initiatives aimed at promoting the employment of Roma – or indeed non-Roma – need to be subject to **rigorous** impact evaluation. It is only in this way that the more successful approaches can be accurately identified and thus replicated and/or scaled up. Until this becomes the norm, questions of what works and what doesn't in employment promoting schemes for Roma will remain a matter of conjecture and opinion.

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#### Annexes

#### Table A1: Estimation of employment probability and (natural logarithm) wage returns to education – full parameter estimates

(corresponding to table 1 in text):

	Probabil	ity of empl	oyment	Log wages			
	M	arginal effect	ts				
		Robust					
	dF/dx	Std. Err.	Z	coeff	std. Err.	z	
Roma	-0.080	0.024	3.3	- 0.209	0.029	7.3	
Female	-0.201	0.027	-7.6	0.048	0.032	1.5	
Female & Roma	-0.076	0.022	-3.4	0.129	0.039	3.3	
bosnia and herzegovina	-0.240	0.003	-50.2	0.421	0.041	10.3	
bulgaria	-0.100	0.002	-47.9	0.139	0.041	3.4	
czech republic	-0.116	0.006	-18.0	1.002	0.043	23.2	
slovakia	-0.276	0.004	-41.8	1.230	0.055	22.5	
montenegro	-0.160	0.004	-32.0	0.672	0.044	15.3	
croatia	-0.236	0.003	-42.9	0.971	0.048	20.2	
hungary	-0.200	0.002	-58.8	0.207	0.042	5.0	
macedonia	-0.206	0.002	-71.9	0.480	0.042	11.5	
moldova	-0.187	0.001	-115.8	-0.038	0.046	-0.8	
romania	-0.143	0.002	-67.7	0.053	0.042	1.3	
serbia	-0.174	0.003	-47.1	0.246	0.040	6.1	
Experience	0.016	0.002	7.9	-0.014	0.004	-3.5	
Experience2	0.000	0.000	-10.2	0.000	0.000	5.1	
primary education	0.027	0.019	1.5	0.088	0.034	2.6	
lower secondary	0.046	0.025	1.9	0.275	0.033	8.4	
upper secondary	0.224	0.024	9.4	0.271	0.038	7.1	
post-secondary	0.429	0.015	23.5	0.379	0.060	6.3	

# Table A2a: Estimation of employment probability education using separate equations by sex and ethnicity – full parameter estimates

(corresponding to table 2, employment estimates in text):

	Male	Roma	Female Roma		M non-	ale Roma	Fe non-	male Roma
	dF/dx	Robust Std. Err.	dF/dx	Robust Std. Err.	dF/dx	Robust Std. Err.	dF/dx	Robust Std. Err.
bosnia and herzegovina	-0.286	0.004	-0.151	0.001	-0.281	0.013	-0.158	0.010
bulgaria	-0.234	0.005	-0.029	0.003	-0.131	0.014	0.129	0.019
czech republic	-0.242	0.012	-0.105	0.005	0.091	0.013	0.255	0.018
slovakia	-0.400	0.006	-0.149	0.001	-0.264	0.014	-0.123	0.016
montenegro	-0.143	0.003	-0.127	0.002	-0.168	0.013	-0.101	0.013
croatia	-0.378	0.003	-0.139	0.001	-0.148	0.011	0.068	0.013
hungary	-0.297	0.008	-0.119	0.002	-0.248	0.011	0.050	0.010
macedonia	-0.272	0.005	-0.124	0.001	-0.211	0.008	-0.129	0.011
moldova	-0.323	0.002	-0.091	0.001	-0.210	0.010	0.020	0.018
romania	-0.234	0.004	-0.068	0.001	-0.187	0.010	-0.013	0.010
serbia	-0.233	0.006	-0.110	0.001	-0.176	0.012	-0.058	0.013
Experience	0.011	0.003	0.015	0.002	0.026	0.004	0.034	0.005
Experience2	0.000	0.000	0.000	0.000	-0.001	0.000	-0.001	0.000
primary education	0.021	0.021	0.041	0.018	0.028	0.095	0.053	0.055
lower secondary	0.053	0.025	0.074	0.016	0.062	0.087	0.120	0.079
upper secondary	0.187	0.046	0.308	0.052	0.148	0.087	0.300	0.072
post-sec- ondary	0.322	0.134	0.583	0.064	0.202	0.062	0.540	0.060

#### Table A2b: Estimation of (natural logarithm) wage returns to education using separate equations by sex and ethnicity – full parameter estimates

	Male Roma		Femal	e Roma	Malo Ro	e non- oma	non- Female ma non-Roma		
	coeff	Std. Err.	coeff	Std. Err.	coeff	Std. Err.	coeff	Std. Err.	
bosnia and herzegovina	0.244	0.063	0.581	0.112	0.443	0.076	0.746	0.093	
bulgaria	0.154	0.067	-0.018	0.088	0.395	0.083	0.081	0.095	
czech republic	1.149	0.074	0.927	0.104	1.076	0.081	0.661	0.092	
slovakia	1.456	0.104	1.125	0.142	1.114	0.091	1.044	0.104	
montenegro	0.582	0.067	0.879	0.145	0.563	0.079	0.760	0.097	
croatia	1.022	0.086	1.003	0.130	0.916	0.082	0.773	0.095	
hungary	0.375	0.073	-0.093	0.088	0.373	0.085	0.026	0.094	
macedonia	0.419	0.066	0.541	0.114	0.514	0.075	0.497	0.093	
moldova	0.172	0.086	0.154	0.109	-0.230	0.084	-0.440	0.093	
romania	-0.010	0.068	0.074	0.096	0.103	0.082	0.140	0.098	
serbia	0.149	0.064	0.136	0.108	0.408	0.075	0.362	0.093	
Experience	0.004	0.007	-0.027	0.010	-0.025	0.007	-0.039	0.008	
Experience2	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	
primary education	0.091	0.046	0.112	0.065	0.145	0.189	0.309	0.208	
lower secondary	0.275	0.046	0.297	0.069	0.347	0.174	0.182	0.187	
upper secondary	0.364	0.056	0.203	0.098	0.433	0.173	0.060	0.185	
post-secondary	0.444	0.244	-0.058	0.293	0.659	0.182	0.201	0.192	
Intercept	5.768	0.113	6.590	0.190	6.092	0.196	6.619	0.213	

(corresponding to table 2, wage estimates in text):

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#### Table A3: Nopo decomposition of employment and wages by country

(corresponding to figures 32 and 33 in text)

	Employment V							es					
	Males	5		Fema	les		Males	les Fema			les		
	total	unex- plained	Std. err. unex- plained	total	unex- plained	Std. err. unex- plained	total	unex- plained	Std. err. unex- plained	total	unex- plained	Std. err. unex- plained	
All countries	0.454	0.240	0.015	1.373	0.553	0.029	0.650	0.415	0.020	0.798	0.351	0.023	
albania	0.083	-0.123	0.031	0.192	-0.232	0.047	0.523	0.176	0.036	0.630	0.152	0.058	
bosnia and herzegovina	0.412	0.137	0.053	3.100	1.699	0.120	0.920	0.508	0.059	1.387	0.914	0.118	
bulgaria	0.381	0.068	0.046	0.910	0.390	0.067	0.670	0.440	0.086	0.611	0.499	0.019	
czech republic	0.709	0.552	0.047	2.181	1.296	0.036	0.597	0.337	0.042	0.373	0.101	0.028	
slovakia	1.441	0.631	0.076	2.821	0.693	0.061	0.331	0.122	0.066	0.704	0.263	0.161	
montenegro	0.187	-0.264	0.047	2.531	-0.731	0.190	0.331	0.132	0.158	1.196	0.918		
croatia	1.616	1.632	0.082	4.463	2.840	0.598	0.580	1.240		0.801	0.365		
hungary	0.269	0.362	0.052	1.612	1.448	0.053	0.480	0.354	0.040	0.337	0.202	0.067	
macedonia	0.409	0.226	0.044	1.477	0.172	0.020	0.713	0.549	0.045	0.964	0.579		
moldova	0.780	0.452	0.071	1.554	0.850	0.136	0.091	0.053	0.276	0.283	0.381	0.161	
romania	0.301	0.211	0.045	0.707	0.547	0.074	0.689	0.423	0.098	0.839	0.366	0.066	
serbia	0.327	0.231	0.040	1.472	-0.112	0.036	0.707	0.363	0.070	1.163	0.549	0.020	

Note: . indicates the standard deviation was not calculable due to the lack of sufficient common support.

#### Table A4: Nopo decomposition of wages by education

(corresponding to figure 34 in text)

	Males			Female		
	total	unex- plained	Std. err. unex- plained	total	unex- plained	Std. err. unexplained
no formal education	0.111	0.043	0.073	0.866	0.454	
primary education	0.209	0.112	0.059	0.892	0.309	0.049
lower secondary	0.162	0.385	0.032	0.153	0.241	0.037
upper secondary	0.162	0.241	0.040	0.181	0.204	0.050
post-secondary	0.492	0.302		0.549	-0.044	0.391

**Note:** . indicates the standard error was not calculable due to the lack of sufficient common support.

## Table A5: Nopo decomposition of wages by location(corresponding to figure 35 in text)

	Males			Female	S	
	total	unex- plained	Std. err. unexplained	total	unex- plained	Std. err. unexplained
Capital	0.505	0.237	0.067	0.679	0.385	0.056
district center / city	0.536	0.577	0.047	0.630	0.245	0.049
Town	0.640	0.258	0.041	0.775	0.338	0.066
Village	0.611	0.244	0.043	0.834	0.222	0.048
unregulated area	0.238	-0.027	0.126	1.758	1.983	•

Note: . indicates the standard error was not calculable due to the lack of sufficient common support.

## Table A6: Nopo decomposition of wages by formality(corresponding to figure 36 in text)

	Males			Females			
	total	unex- plained	Std. err. unexplained	total	unex- plained	Std. err. unexplained	
Formal	0.251	0.216	0.028	0.329	0.091	0.039	
Informal	0.304	0.089	0.042	0.572	0.137	0.067	

Note: . indicates the standard error was not calculable due to the lack of sufficient common support



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