INTEGRATED HOUSEHOLD SURVEYS AMONG ROMA POPULATIONS

ONE POSSIBLE APPROACH TO SAMPLING USED IN THE UNDP-WORLD BANK-EC REGIONAL ROMA SURVEY 2011

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Introduction

The Regional Roma Survey 2011 was completed in cooperation with the United Nations Development Programme (UNDP), 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, 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).

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. The combined UNDP/WB/EC Regional Roma Survey 2011 and FRA Roma Pilot Survey 2011 has a total of

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

This paper describes the methodology, dataset, and methods used behind the UNDP/
World Bank/EC Regional Roma Survey 2011 while an additional paper by the FRA will
provide details of the FRA Pilot Roma Survey. The two surveys were performed in con-
junction and have similar methodologies, however some questions were different and
their geographic scope of study also differed. The UNDP 2011 Survey covers 11 East-
ern European countries including five EU countries; Albania, Bosnia and Herzegovina,
Montenegro, Croatia, Macedonia, Moldova, Serbia and the EU countries of Bulgaria,
the Czech Republic, Slovakia, Romania, and Hungary. The FRA Roma Pilot Survey en-
compasses 11 EU countries; Greece, Spain, France, Italy, Poland, Portugal, including the
five covered by the UNDP 2011 Survey (FRA 2012). Forthcoming UNDP publications
will note when they use the pooled data set from both surveys or data exclusively from
the UNDP/World Bank/EC Regional Roma Survey 2011 when survey questions differed.
Five European Union countries - Bulgaria, the Czech Republic, Slovakia, Romania and
Hungary - represent the area of overlap.

The paper is divided into three parts. The first part provides an idea of the general prob-
lems related to sampling of Roma populations stemming from the fluid nature of Roma
identity. The second part gives a background of the context of the survey and describes
its methodology, the sampling procedure and the fieldwork. The third part gives in-
formation on the data set produced by the survey and used for the UNDP working
papers.
Who’s Roma? Defining the universe of study

Roma inclusion\(^2\) is increasingly visible on political agendas both of governments and international institutions. It entails many challenges which are usually reduced to its practical aspects - what to do and how to do it, so that real progress is achieved. Against the background of those practical aspects, one issue is gaining less attention than it should – a clear definition of who are the “Roma” that are to be “included”? The task of defining becomes even more challenging if we take into consideration the fact that both “Roma” and “inclusion” are vague – and interrelated – concepts. They are intellectual and political constructs to which different people (Roma or non-Roma, politicians or ordinary citizens) usually attribute different meanings. In addition, given the interrelated nature of the two concepts, the practical content of “inclusion” varies depending on the meaning attributed to “Roma” (Ivanov, 2012).

Defining the universe of study is even more critical in sampling research. “A sample of an undefined universe” is an oxymoron. Strictly speaking, one cannot define a sample not knowing exactly what is being sampled. In the case of the Roma, however, the task of precisely defining the universe presents important challenges. Census data (the source usually used by the government which needs formalized data sources) notoriously and significantly differ from “experts’ estimates”. On average, the difference can be as large as four-fold.\(^3\) Depending on the specific circumstances, it can change in scope and coverage. If the circumstances suggest that there is a certain risk associated with “being Roma”, the estimates get lower; if there are some potential benefits (preferential access to services for example) – the estimates get higher.\(^4\)

The need for more precise statistics on Roma has become ever more acute, as govern-

\(^2\) The terms – “integration” and “inclusion” – are often used as synonyms despite the important differences between the two. The former entails the involvement of the representatives of the minority in dominating structures with limited elements of diverse identity retained (and usually the resulting involvement is limited as well). In that case the external system is more tolerant to diversity but remains static – it accepts certain elements of diversity but this acceptance doesn’t entail change in the system itself. “Inclusion” on the other hand entails a dual track process in which both the minority and the system adjust – the former preserves the core markers of its identity (but not all) and the latter becomes responsive and accommodative to those elements of unique identity. It’s interesting to note that in everyday policy jargon “inclusion” is also reserved for people with disability or indigenous groups, whereas “integration” is attributed to migrants. In the EU policy language the increasingly dominating term “integration” (the EC is calling for “National Roma Integration Strategies” for example) is used although the real meaning is “inclusion” (see UNDP 2012, pp. p-6). However the differences between the two terms – as important as they might be – go beyond the direct scope of this paper.
ments have begun to develop special programs related to Roma (Petrova 2004, p. 5). This constitutes a fundamental challenge because demographics is at the core of both sampling and of the denominator of any indicator (even if the number of Roma unemployed could be estimated, the “unemployment rate” would differ depending on the estimated size of the Roma labor force). What is more important, precise (to the extent possible) numbers are needed for practical responses: it matters whether you are planning a resource allocation for 100,000 or for 400,000 people to be targeted in whatever intervention.

**Between self-identification and external identification**

Two approaches are usually used to define one’s affiliation (ethnic or other): self-identification or external identification. One is a “result of choice”, the other – of “ascription” (Rughiniş 2011). In the first case the individual respondents are asked directly “To what ethnic group do you belong?” or indirectly “With which group/culture/community do you affiliate?” In the second case, outsiders make a judgment on the identity of the person or the entire community – “Is he or she a Roma?” or “is the neighborhood over there a Roma one?”. Both approaches, which are used in various surveys, produce different results (the universe of “self-identified Roma” is often smaller than the “externally identified as Roma”, for various reasons. One – and most obvious – is the stigma associated with “belonging to Roma” and the experience of past and present misuse of ethnic data (Makkonen 2007, p 50). But the choice of different identity is often driven by more pragmatic reasons. It is easier to integrate with other minorities constituting a majority at the local level (like the Turks in Bulgaria – in which case the Roma living in Turkish-dominated settlements usually self-identify as Turks). Another could be better protection of group rights (for example, in countries such as Greece, where Roma would self-identify as ‘Muslims’ rather than Roma, since only Muslims have specific minority rights).

Thus each of the two approaches is reasonable but reflects part of a complex reality. This is why they are often used as complementary. The censuses are the largest-scale data collection efforts that rely on self-reported affiliation. It is usually thought that

3/ One of the most frequently cited source of population estimates on “Roma” is the Council of Europe. It provides estimates of the “Roma” population for countries of CoE area, for EU member states and Europe in total. The ratio between the “minimum estimate”, “maximum estimate” and “average estimate” to and the official census data (for countries which register main ethnicity in their censuses) is respectively 2.7, 5 and 4. www.coe.int/t/dg3/romatravellers/Source/documents/stats.xls. See also Liegeois 1997.

4/ This phenomenon called “strategic ethnicity” is not unique for Roma. Examples as distant as Jews in 1939 Germany and being in a train with hooligans from the oppositional football team share the same logic.

5/ In some countries (like the US) individuals can choose multiple identities (as in the case of children from mixed marriages). This approach however is not used in countries with large Roma minorities.
INTEGRATED HOUSEHOLD SURVEYS AMONG ROMA POPULATIONS

censuses underreport Roma populations because they are conducted by the state with whose structures Roma are cautious in sharing information with given their bitter experience from the past (see, for example OSI 2010 or Škobla et al., 2009). Unlike censuses, sample surveys are conducted by non-state actors and have lower level of mistrust on the side of the respondents. But even in that case there’s a discrepancy between the self-reported and expert (external) identification of Roma ethnicity. The discrepancies are smaller than in censuses but still significant. In addition, the universe of those “self-identified” as Roma is not a simple sub-sample of the “real Roma,” identified “externally”. There is a group who self-identify as Roma but is not seen as Roma by outside observers (Rövid 2011, p. 8).

The immediate question that arises when comparing the results of the two approaches is “which estimate/figure is the right one?” Impressive volumes already exist addressing the issue of which approach – self-identification or external identification – is more correct in terms of quantifying populations such as Roma. The answer is that both – and neither of them – because the very definition of the question in those binary terms is wrong. The very question “which of the two approaches is the correct one?” frames the issue as a technical challenge in which all you need is to apply the correct definition, determine the proper method of “counting”, and apply the appropriate techniques (for example, to overcome the fear or the mistrust of those being counted).

Interestingly enough, the literature on the issue of “Roma and statistical data” is dominated by concerns about misuse of data – and not about vagueness of defining the population in question. All the authors assume the existence of a clearly identifiable constituency that might fall victim to discrimination, prosecution or other abuse when (if) reflected in figures. This underlying assumption is wrong and this is what makes both approaches equally right and wrong albeit for different reasons. Both approaches address “Roma” as a matter of an unequivocal ethnic or national affiliation. Both are built on the assumption that “Roma” as an identity is defined clearly enough, but is associated with certain risks for the individual (prejudice, stigma, overt discrimination). They consider that the task of defining the universe boils down to motivating the individual to reveal that identity – or find some ways of getting around the individual’s reluctance. Both approaches are aware of the multifaceted and motley nature of the “Roma universe” comprised of various groups and subgroups. These partially overlap and share the common historical roots, experience of discrimination, as well as certain linguistic commonalities, shared set of values and relations to surrounding majorities.

Ideally, instead of asking the question “Are you Roma?” (and wondering which of the many possible meanings of “Roma” the respondent might have in mind, regardless of

6/ For example, in the monthly omnibus surveys conducted by TNS BBSS (member of WIN/GIA) in 2009-2011 95% the respondents who self-identified as “Roma” were similarly identified by the enumerators. However only 78% of the respondents identified as “Roma” by the enumerators self-identified as “Roma” (12% self-identified as “Bulgarians” and 9% – as “Turks”. Source: working communication with TNS BBSS.

7/ The delineation between “ethnicity” and “a nation” – and the question is Roma a nation or ethnic group – requires a separate in-depth analysis that is not subject of the current article.
his/her answer), a researcher should build a detailed profile of the individual first. The additional ethnic identity markers commonly used (like “what is your mother tongue?”, “what language do you speak at home?”; “what is the ethnicity of your immediate neighbors?” etc.) are not sufficient. Ideally those need to be complemented by a long list of questions addressing values, behavioral patterns, myths, beliefs, cultural traits etc. Only then, out of this detailed profile, could a researcher theoretically conclude whether the person is a “Roma” or not – assuming, of course, that one can quantify this myriad of qualitative elements (some of them even mutually contradictory) in quantitative terms and has a defendable standard (or a gauge) of what is the minimum number of individual attributes beyond which one could qualify for “being Roma”.

Obviously, this is not practically feasible for a large scale survey and in most cases both researchers and policy-makers are using an intellectual short-cut of “the Roma” – again, leaving open the question what exactly is being meant by “Roma”. Analysts and policy makers seem to be following the instinctive appeal of “we cannot precisely define them – but we all know who they are.” This approach is defining a reasonably clear target of possible interventions (and resource allocation and monitoring) at the same time, leaving ‘out of the brackets’ the unsolvable question of rigid definition.

In summary, a combination of both self-affiliation and external assessment is necessary but not entirely sufficient – and should be applied already at the stage of sampling design.

The second best option: focusing on the communities where Roma are overrepresented

A feasible compromise was tested by UNDP in 2004 in its regional survey on Roma in CEE and South-Eastern Europe. It was building on the experience of the 2002 survey (Ivanov et al., 2002), complementing it by one important element: the risk of marginalization.

A major assumption of this survey was the fluid nature of Roma identity and the territorial concentration of vulnerable Roma. The research team was realistic about the (im)possibility of reaching “all Roma” (both those who are socially included and those who are socially excluded). Reaching those who are most in need of support – and who happen to be in most cases socially excluded and often residentially segregated – was seen as a priority.

The approach is not ideal because the data cannot claim to be representative of “all” Roma. But it is policy driven and policy relevant because it is “as representative as possible of those Roma who face social exclusion and risk marginalization” and who are the target of the Roma inclusion efforts (and funding). In the end, the process of Roma inclusion is about including the excluded and not those who are included already.

8/ A paraphrase of Andrzej Mirga’s famous phrase “you may not know who we are but we do.”
The methodology and sampling procedure of the 2011 survey

Experience with Roma targeted surveys

Roma surveys are not that common – hence experience in sampling is quite rare. Despite these hurdles several attempts have been made over the past decade to define and survey this population in order to improve targeting of social inclusion policies – mostly following the self-identification approach. The World Bank used a Yale University dataset which analyzed Roma socioeconomic status in Bulgaria, Hungary and Romania. The survey and subsequent analysis used independently determined self-identification and interviewer identification of Roma status. Interviewer identification however, seemed to largely overestimate the population of Roma; many of those identified as Roma did not self-identify as such (61 percent in Romania, 38 percent in Hungary and 24 percent in Bulgaria). The survey consisted of both household and individual questions and was used in combination with an additional oversampling of Roma to ensure greater efficiency in their estimates (see Ringold et al. 2005).

The UNDP had also previously surveyed the Roma in Bulgaria, Hungary and Romania as well as the Czech Republic and Slovakia trying to match the benefits of external identification and self-identification. For the purpose of the first regional report on the status of Roma in CEE (Ivanov et al., 2002) the areas populated mainly by Roma were identified first using census data in consultation with experts in ethnic relations, representatives of national polling agencies, and Roma NGOs. Then sampling clusters were further selected according to the distribution of Roma. Finally, field operators identified Roma with help from local experts. Similar to the World Bank approach (Ringold, Orenstein, and Wilkens, 2005), there was an oversampling of Roma who did not self-identify as Roma although on a smaller scale (14 percent in Bulgaria, 13 percent in the Czech Republic, 5 percent in Romania, and 9 percent in Slovakia). Approximately 1000 Roma individuals from each country were surveyed with individual and household level questions. Non-Roma were not surveyed. Further refining of the sampling procedure and an expansion of the geographic area led to a more comprehensive and targeted UNDP Regional Roma Survey 2004 (Ivanov et al., 2006). This survey included nine Central and Eastern European countries and in addition to a large population of Roma included for the first time samples of non-Roma living in close proximity to the Roma population. In total, it surveyed 8,273 households and 34,116 individuals.
Following the 2004 pilot conducted by UNDP, other organizations were increasingly involved in Roma targeted surveys. UNICEF for example reflects the need for specific data related to the situation of children, women and men in Roma settlements, through Roma surveys in the third and fourth rounds of MICS (Multiple Indicator Cluster Surveys). So far, UNICEF has done such surveys in Serbia (2005 and 2010) Former Yugoslav Republic of Macedonia (2005 and 2011) and in Bosnia and Herzegovina (2011/12) and plans to run one in Montenegro and one in Kosovo (UNSCR 1244) (within fifth round of MICS). In all cases the basis for the sampling is the census data updated through various approaches. In Serbia, a total of 1815 Roma households were selected. The sampling frame for Roma settlements was based on information from the 2002 Serbian Population Census, excluding all enumeration areas with 17 or less Roma households (UNICEF 2007b, pp. 24-25). Since the sampling frame (the 2002 Population Census) was not up-to-date, a new listing of households was conducted in all the sample enumeration areas prior to the selection of households. For this purpose, listing teams were formed, who visited each enumeration area, and listed the occupied households. The interviewers’ task was to go to the addresses listed and to identify the current Roma households, together with the number of children under five living in the household. In the Former Yugoslav Republic of Macedonia a similar approach was used. The sampling frame for Roma settlements was based on information from the 2002 Population Census, using the enumeration areas with 15% or more households being Roma households. Since the sampling frame (the 2002 Population Census) was not up-to-date, a new listing of households was conducted in all selected sample enumeration areas prior to the selection of households. For this purpose, listing teams were formed, who visited each enumeration area, and listed the occupied households. The interviewers’ task was to go to the addresses listed and to identify the current Roma households. Roma clusters were located in urban areas only, as over 95% of Roma population lives in urban settings. 70 clusters were allocated for the Roma population, in addition to the 300 clusters for the national sample. A total of 1079 Roma households were selected the Former Yugoslav Republic of Macedonia (UNICEF 2007a, p. 17).

Besides being an important policy tool in and of itself, by following a similar procedure as the 2004 survey, the UNDP/World Bank/EC Regional Roma Survey 2011 also allows for “some minimum level of comparability” between populations’ status over time. “Some minimum” means acceptable for outlining the magnitude of the change in major parameters with certain caveats in mind. Theoretically, a longitudinal survey on a panel that would follow the same individuals over time and space might have yielded better results and have controlled for bias from omitted time invariant household effects (and by then controlling for time-varying factors could make an even more accurate comparison). It wasn’t possible however in practice for a number of reasons. The first is the programmatic time-frame. A longitudinal survey requires a long-term investment and commitment that it would be repeated at least once more (something impossible in the framework of the current project). The second group of reasons why a longitudinal survey wasn’t feasible includes factors of methodological and legal nature. The suspicion towards outsiders’ surveys and inquiries is still high among Roma communities.
and enrolling in longitudinal survey (with recording names and exact contact details) would require much longer preparatory work with the communities surveyed. Therefore the repeated cross-sample is seen as an optimal compromise between comparability across time and representativity at the moment of the survey. With all its caveats the survey does give a sufficiently good approximation. It allows for a sufficiently robust comparability between the situation of the Roma and the non-Roma – living in close proximity – over a 7 year period. And it thus provides objective data for evaluating the success/or lack thereof of social inclusion policies during this time period.

The 2011 survey: the sampling

The primary universe under study consisted of: (i) all the households in Roma settlements or areas of compact Roma population; (ii) non-Roma communities living in close proximity to Roma. It covered two sampling universes. The sampling universe for Roma sample was defined as “the households in Roma settlements or areas of compact Roma population who identify themselves as Roma”. The sampling universe for the non-Roma sample was defined as “the households of non-Roma populations living in close proximity to Roma.” The sampling design was based on the assumptions that, in order to achieve adequate coverage of Roma population, a combination of external and self-identification is necessary when defining the samples. Table 1 summarizes the major stages and approaches of the sampling process.

As seen from the table, at the first stage of the sampling, a list of settlements from Census data was used. While being aware that censuses understate the absolute numbers of Roma, the survey accepted that the census data reflect adequately the structure and territorial distribution of those individuals who identify themselves as Roma. In practical terms, it was assumed that the propensity to underreport was identical for each region within an individual country. Based on this assumption, the Roma sample was taken as representative of the Roma population living in ‘Roma settlements or areas of compact Roma population’. Those settlements and areas were defined as settlements where the share of Roma population equals, or is higher than, the national share of Roma population in the given country, as reflected in the census data. Those are the settlements where the Roma population is facing the most severe challenges.
THE METHODOLOGY AND SAMPLING PROCEDURE OF THE 2011 SURVEY

of exclusion, therefore addressing those populations is the primary policy purpose of Roma inclusion initiatives.

Oversampling Roma by including those who did not self-identify as Roma was avoided in the third stage by beginning the interview with an indirect question about ethnic status. The interviewer after identifying a household as Roma would ask the household head, “*We are conducting a survey AMONG THE ROMA POPULATION. Would you mind to be interviewed?*” If the head explicitly denied being Roma by saying, for example, “*I am not Roma, why should you interview me?*” the interviewer was told to immediately discontinue the interview. A willingness to participate in the interview was seen as a tacit endorsement of Roma status. This we later defined as “implicit endorsement of the external identification”.

In other words, internal (self-identification) and external (outsider’s identification) modes therefore prevail at different stages of the sampling process. Self-identification (reported during the census) was used in the first stage; external identification (assessment of local people, NGOs, experts) was employed in the second stage. In the third stage (respondents’ selection), the results of the first two stages were confirmed or rejected by ‘implicit endorsement of identification’. The experience from the fieldwork supported the approach taken. The interviewers didn’t have any problems identifying the ethnicity of Roma respondents. There were few situations in which the interviewers identified individuals as being Roma and they denied it.

On the other hand, being Roma and self-identifying themselves as Roma when they were asked created an opportunity: they were part of a minority and this could bring them some material advantages. Others were afraid that their answers would make them lose the financial support they receive from the local authorities. In these situations, the interviewers had to insist on the explanation regarding the purpose of the study and where all the information collected in the questionnaires would go.

A specific problem occurred in Bulgaria, where in several sampling points there were cases in which the claimed ethnic identification of the respondent was different than the one indicated by the interviewer. Those respondents identified themselves as Turks, but at the same time didn’t oppose being Roma as well. In Romania, there were situations in which the interviewers were confronted with a terminology issue. After reading the introduction for the Roma sample that contains the expression “among the Roma population”, the interviewers had to explain to the respondents that the word Roma is similar to Gypsy (“Tsigan”). In some areas, Roma don’t call themselves Roma, but Tsigani. In the Czech Republic, reports from the interviewers as well as collected data suggest self-declaration of Roma ethnicity being less problematic for Roma population in the UNDP survey than in the National Census.

All steps of the survey preparation and implementation were closely coordinated with the Fundamental Rights Agency’s (FRA) survey. The sampling frames for both surveys used the same data sources (in the countries of overlap – BG, CZ, HU, RO and SK) and the same criteria – municipalities with equal or higher share of Roma in the total population when compared with the overall population share of Roma in a given country.
**Table 1: Outline of the sampling methodology, the UNDP/World Bank/EC Regional Roma Survey 2011**

<table>
<thead>
<tr>
<th>Location</th>
<th>Romania, Slovakia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Macedonia, Albania, Bulgaria, Czech Republic, Hungary, Republic of Moldova</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of data collection</td>
<td>Face-to-face interviews at the respondent’s household</td>
</tr>
<tr>
<td><strong>Roma sample</strong></td>
<td><strong>Non-Roma sample</strong></td>
</tr>
<tr>
<td>Sample universe</td>
<td>The households in Roma settlements or areas of compact Roma population; representatives of Roma population who implicitly identify themselves as Roma</td>
</tr>
<tr>
<td>Sample frame</td>
<td>List of settlements from Census with average and above share of Roma updated with information from other relevant sources; no. of inhabitants in each settlement: general population and of Roma ethnicity</td>
</tr>
<tr>
<td>Type of sample</td>
<td>Two/three stage random representative sample</td>
</tr>
<tr>
<td>1st stage: PSU</td>
<td>Clusters within settlements inhabited by the Roma population (approx. size 30 households), selected by equal probability</td>
</tr>
<tr>
<td>2nd stage: SSU</td>
<td>Households chosen with equal probabilities, and selected by the method of random start and equal random walk</td>
</tr>
<tr>
<td>3rd stage: TSU</td>
<td>(only for module C) Household member 16+, and selected by “first birthday” technique</td>
</tr>
</tbody>
</table>
| Stratification, purpose and method | Strata: type of settlements and region | Purpose: Optimization of the sample plan, and reducing the sampling error  
Method: The strata are defined by criteria of optimal geographical and cultural uniformity |
In the first stage, using the sampling frame a random sample of municipalities was selected with the minimum size of the primary sampling unit (PSU) at 30 households (to assure the possibility of randomly selecting households 7 Roma households per PSU). The number of non-Roma households interviewed in each PSU was 3 or 4 (in order to have 350 non-Roma respondents, 4 questionnaires were allocated to the every fourth PSU; in all other PSUs 3 non-Roma interviews were conducted). In the case that there were no non-Roma in close proximity of the cluster selected in Roma sample, interviews planned for that non-Roma cluster were reallocated to the non-Roma cluster in close proximity of the nearby selected Roma cluster. Based on the sampling frame and the sampling procedure the survey representativeness varied between 83% and 90%. The details of the sampling procedure in individual countries are provided in Table 2.

<table>
<thead>
<tr>
<th>Sample size</th>
<th>Approx. 750 Roma households per country</th>
<th>Approx. 350 non-Roma households per country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling error</td>
<td>Margin error n=750 +/- 3.74%</td>
<td>n=350 +/- 5.49%</td>
</tr>
</tbody>
</table>

Table 2: Details of sampling by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Source of data for sampling frame</th>
<th>Total number of Roma (source for the sampling frame)</th>
<th>Total number of Roma population covered with survey (based on the sampling frame)</th>
<th>Explanation of the sampling frame</th>
<th>Percentage of Roma population covered by the survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>Estimates of Amaro Drom, Roma NGO in Albania. Data provided by UNDP Albania.</td>
<td>40478</td>
<td>40478</td>
<td>List of marginalized Roma settlements was used, so all the listed settlements were included in the sampling frame</td>
<td>100%</td>
</tr>
<tr>
<td>Country</td>
<td>Description</td>
<td>Data Source</td>
<td>GHF (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>Results of process of registration of Roma and Roma households, 2009-2010, Ministry of Human Rights and Refugees.</td>
<td>16771 16771 Results of the process of registration of Roma and Roma households were used. Data were on the level of municipality</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>2001 Census data, National Statistical Institute</td>
<td>370880 327460 National average + minimum 20 HH criteria was used</td>
<td>88%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>2001 Census data by settlements, with inputs of NGO “Roma for Roma Croatia”</td>
<td>9463 8829 National average criteria was used</td>
<td>93%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>2001 Census data, Hungarian Central Statistical Office</td>
<td>193484 151732 National average criteria was used</td>
<td>78%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macedonia</td>
<td>2002 Census data, State Statistical Office</td>
<td>53879 47403 National average + minimum 20 HH criteria was used</td>
<td>88%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moldova</td>
<td>2004 Census data, National Bureau of Statistics</td>
<td>12271 12271 Since finding marginalized Roma was difficult, all settlements inhabited by Roma were included in sampling frame</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fieldwork

The implementation of the survey lasted from May 16th until June 30th, 2011. It was implemented by local partners of IPSOS Strategic Marketing Belgrade (www.ipsos.com) in individual countries. Table 3 provides details on the realized sample sizes and response rates by countries of the 2011 survey.

It’s worth noting that in most countries the response rate among Roma respondents was slightly higher than the response rate among non-Roma. In Macedonia, Croatia, Albania, Montenegro, Bulgaria, Bosnia and Herzegovina, Serbia and Hungary the re-
Table 3: Realized sample size by country, UNDP/WB/EC Regional Roma Survey 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Roma Households</th>
<th>Roma Household Members</th>
<th>Roma Response rate</th>
<th>Non-Roma Households</th>
<th>Non-Roma Household Members</th>
<th>Non-Roma Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>787</td>
<td>3,533</td>
<td>86%</td>
<td>355</td>
<td>1,384</td>
<td>83%</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>779</td>
<td>3,551</td>
<td>78%</td>
<td>365</td>
<td>1,130</td>
<td>74%</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>763</td>
<td>3,058</td>
<td>80%</td>
<td>366</td>
<td>938</td>
<td>79%</td>
</tr>
<tr>
<td>Croatia</td>
<td>757</td>
<td>3,869</td>
<td>90%</td>
<td>350</td>
<td>1,106</td>
<td>80%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>756</td>
<td>3,353</td>
<td>66%</td>
<td>350</td>
<td>1,049</td>
<td>56%</td>
</tr>
<tr>
<td>Hungary</td>
<td>753</td>
<td>3,204</td>
<td>70%</td>
<td>354</td>
<td>931</td>
<td>75%</td>
</tr>
<tr>
<td>Macedonia</td>
<td>788</td>
<td>3,696</td>
<td>90%</td>
<td>358</td>
<td>1,374</td>
<td>87%</td>
</tr>
<tr>
<td>Moldova</td>
<td>759</td>
<td>3,163</td>
<td>56%</td>
<td>351</td>
<td>934</td>
<td>63%</td>
</tr>
<tr>
<td>Montenegro</td>
<td>766</td>
<td>3,237</td>
<td>84%</td>
<td>356</td>
<td>1,046</td>
<td>79%</td>
</tr>
<tr>
<td>Romania</td>
<td>757</td>
<td>3,514</td>
<td>68%</td>
<td>350</td>
<td>1,021</td>
<td>56%</td>
</tr>
<tr>
<td>Serbia</td>
<td>786</td>
<td>3,645</td>
<td>80%</td>
<td>369</td>
<td>1,216</td>
<td>68%</td>
</tr>
<tr>
<td>Slovakia</td>
<td>756</td>
<td>3,511</td>
<td>68%</td>
<td>350</td>
<td>1,197</td>
<td>48%</td>
</tr>
<tr>
<td><strong>Total UNDP 2011</strong></td>
<td><strong>9,207</strong></td>
<td><strong>41,334</strong></td>
<td><strong>75%</strong></td>
<td><strong>4,274</strong></td>
<td><strong>13,326</strong></td>
<td><strong>69%</strong></td>
</tr>
</tbody>
</table>

Response rate was influenced mostly by a number of refusals among Roma and non-Roma population with no uniform reason for the non-response situations. The refusal among Roma population was caused primarily by the fear that their answers might have negative implications for the financial support they receive from the local authorities. In those cases the interviewers were devoting more time to explain the purpose of the study and how the information collected will be used. Involving interviewers of Roma ethnicity boosted the confidence among the Roma respondents and increased their willingness to participate in the survey. In Romania, the Czech Republic, Slovakia and Moldova additional reasons for non-response situations were (a) the entire household working abroad or involved in seasonal work in another part of the country or (b) people working in the field till night (particularly in rural areas). In such cases interviewers had to visit the households several times and some interviews were conducted in late hours or early in the morning. In some cases the respondents were not found at home even after 4 visits. A special case was encountered in Romania in the Petresti community (Satu Mare), where the interviewers had difficulties in establishing contact with the male household members. It was reported that men often leave to find work outside the community during the summer.
All interviewers passed training before administering the survey and received a detailed interviewer manual to be followed during the field work. In total, 1472 people were involved in the fieldwork (interviewers/supervisors/editors). Country polling agencies engaged a total of 220 Roma enumerators and 102 Roma assistants to enumerators (20% or 50% of PSUs respectively were interviewed in cooperation with Roma NGOs in Slovakia and the Czech Republic). The data quality during the fieldwork was assured through a realization of logical checks for each filled in questionnaire and back-check of 10%-20% of the questionnaires (contacting the respondents to confirm that they have been interviewed). For more details on fieldwork by country see Table 4.

The fieldwork in the EU member countries (Bulgaria, Czech Republic, Hungary, Romania and Slovakia) was coordinated with the fieldwork of the parallel survey implemented by the Fundamental Rights Agency. This coordination assured that the enumerators did not visit the same PSUs, producing for these countries a larger sample for selected questions (questions covered by both surveys – see the section on the questionnaire).

For the purpose of this survey, a Roma settlement was defined as part of a settlement in which the Roma population represents more than 50% of the total population of that part of the settlement). Non-Roma populations living in close proximity to Roma were defined as non-Roma households in the range of 300m from a Roma settlement (in the direction of the municipal office). In cases when there was no non-Roma population in close proximity or in the case of high diversity in socio-economic status between Roma and non-Roma population (for example in case that the Roma settlement was surrounded only by large new buildings - the difference in socio-economic status between Roma and non-Roma was high and visible) interviews with non-Roma would not be done in this sampling point, but a double number of non-Roma interviews would be done in the next sampling point. The non-Roma sample was not to be fully distinguished from the Roma sample. If an interviewer came to a person in a Roma settlement who was NOT Roma by self-declaration and interviewers’ observation, he/she was included in the sample of non-Roma. After performing all 7 interviews from the Roma sample, interviewers went among non-Roma in close proximity of the Roma settlement and then performed the rest of the interviews from the non-Roma sample.

The enumerators were instructed to strictly keep the rules of the household selection. In case of non-response (due to not being at home) the interviewers had to re-visit a selected household 4 more times until they could replace it. The enumerators achieved response rates between 60% (Slovakia) and 89% (Macedonia).

No major problems occurred during the administration of the survey. Encouraging Roma respondents to take part in the study was successful. Although in most of the cases people were happy to take part to the survey and provide all the information they were asked for, hoping that their answers will count and their communities will receive some kind of help, in some communities the respondents were reserved, claiming that answering the questions won’t do them any good, that it would not change their situation. Households which agreed to participate in the survey were relaxed and did not have difficulties in answering, but the questions regarding income sources, credits /
loans of the household members and activity status made them feel more uncomfortable and hesitant in giving a straight answer.

In all countries where the survey was conducted, in certain sampling points help and consent of local settlement leaders was crucial part in order to ensure that the survey would be conducted successfully. Beside this consent, in sampling points where there were problems in entering and conducting the survey, help of local authorities or specialized NGOs was necessary and much appreciated. Specific problems with encouraging respondents occurred in the municipality of Hlíné in Slovakia, where the local Roma authority did not allow the survey to be conducted.

Regarding the non-Roma sample, in Slovakia and the Czech Republic it was relatively more difficult to encourage non-Roma to take part in the survey. Probable reasons include antipathy towards Roma neighbors, unwillingness to participate in activities towards helping them and fear of speaking about Roma neighbors.

Each household was visited by a pair of interviewers (male and female to assure the interviewees felt comfortable answering potentially gender sensitive questions). This method proved to be prevailing helpful, although there were reported a few disadvantages as well. Strengths of this technique seemed to be more associated with the interviewing process itself, while weaknesses seemed to be more associated with organizational matters.

The interviewers pointed out that using the two interviewers’ technique was sometimes problematic, due to the need to coordinate their schedules within a short period of time, but also due to the unequal distribution of work. The latter reason was also pointed out, every so often, as an advantage, in that it eased the interviewing process: the interviewer who finished first could hold the others’ attention, while the second interviewer could complete their modules as well. On the other hand, for the interviewing process, this method proved to be more viable since it increased the credibility of the survey and the participation rate. Besides that, the time of completion was significantly shortened given the distribution of modules per interviewer (on average, the administration of the entire questionnaire lasted 1.5 hours (net time), hence in reality the enumerators spent in each household less time when splitting the interviews).

Using two interviewers and the fact that they were able to complete questionnaires at the same time prevented any unwanted complications related to Module 4 (see description below), and its privacy requirements. Interviewers often appreciated working in pairs sometimes due to their safety concerns. An interesting fact to be mentioned would be that, occasionally, respondents associated the presence of two interviewers with the lack of trust and feeling of fear related to Roma people.

Including interviewers of Roma ethnicity in the survey proved a particularly good experience. Namely, in the case of a Roma interviewer, Roma respondents had more confidence and the presence of one Roma interviewer helped establish a connection sooner.

In each household up to three household members could have been interviewed during
### Table 4: Details of the fieldwork

<table>
<thead>
<tr>
<th>Country</th>
<th>Fieldwork duration</th>
<th>Response rate</th>
<th>Number of staff (interviewers / supervisors / editors) involved</th>
<th>Number of teams</th>
<th>Number of Roma enumerators</th>
<th>Number of Roma assistants to enumerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>20/5-24/6</td>
<td>85%</td>
<td>195</td>
<td>91</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>18/5-18/6</td>
<td>76%</td>
<td>127</td>
<td>76</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>16/5-19/6</td>
<td>80%</td>
<td>127</td>
<td>67</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Croatia</td>
<td>18/5-30/6</td>
<td>87%</td>
<td>92</td>
<td>52</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>16/5-24/6</td>
<td>62%</td>
<td>112</td>
<td>57</td>
<td>20</td>
<td>more than 50% PSUs interviewed in cooperation with Roma NGOs</td>
</tr>
<tr>
<td>Hungary</td>
<td>20/5-23/6</td>
<td>72%</td>
<td>134</td>
<td>71</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Macedonia</td>
<td>17/5-26/6</td>
<td>89%</td>
<td>102</td>
<td>62</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>Moldova</td>
<td>20/5-20/6</td>
<td>58%</td>
<td>97</td>
<td>56</td>
<td>42</td>
<td>48</td>
</tr>
<tr>
<td>Montenegro</td>
<td>18/5-20/6</td>
<td>82%</td>
<td>106</td>
<td>86</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Romania</td>
<td>18/5-18/6</td>
<td>64%</td>
<td>149</td>
<td>81</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Serbia</td>
<td>20/5-14/6</td>
<td>75%</td>
<td>128</td>
<td>75</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Slovakia</td>
<td>16/5-29/6</td>
<td>60%</td>
<td>103</td>
<td>56</td>
<td>72</td>
<td>more than 20% PSUs interviewed in cooperation with Roma NGOs</td>
</tr>
</tbody>
</table>
The interviewers reported some problems when interviewing three members but not in a significant number. They mentioned that option of interviewing three persons in the household caused a suspicious reaction of head of household. There were cases in which the randomly chosen person refused to answer questions in Module 4 and asked another household member (usually the head of household) to answer instead. The main reason for this situation was that many of the randomly chosen respondents were still young, even though they were older than 16, and felt insecure to share their opinions with a stranger. Also, due to the rather low employment rate among Roma, in most situations, the interviewer had no problems in finding the household members at home.

More problematic than interviewing three respondents in the household was interviewing one person who had to answer three or more modules in the interview. Interviewing with quite sophisticated or personal questions for more than 1.5 hours was tiring and poorly accepted by some respondents.

The majority of interviews did not have problems with identifying the randomly chosen respondent. When applying the first birthday technique for choosing a random respondent, two problems were occasionally identified: the inability to recall all family members’ date of birth and illiteracy problems. This latter issue, although not directly related to the first, helped in some situations to obtain more valid data. Respondents who were not sure about the dates and who also could not read offered their documents (IDs) to the interviewer so that he could write down all information needed. In some cases where documents were not accessible, the interviewer selected respondents using the season they were born in as criteria.

**Questionnaire**

The survey questionnaire of the 2004 survey followed the philosophy of integrated household surveys, with separate components containing both household and individual modules (Ivanov et al, 2006). Within the individual module, each household member’s profile was registered (demographic characteristics, economic status, education, health). The household module addresses issues related to the household in general (dwelling type, access to basic infrastructures, household items possession etc.). Questions related to incomes and expenditures were addressed in both modules, making it possible to crosscheck the results. The UNDP/World Bank/EC regional Roma survey 2011 followed the same logic and to a large extent copies the questions used in the 2004 survey.

The questionnaire consisted of five modules (see the full questionnaire in the annex). **Module 0 – Management section** was filled in by the interviewer based on their observation. It covers: interviewer’s evaluation of settlement characteristics and housing conditions; identification of the respondent; assessment of the interview and information about the supervisor check.
Module 1 – Household members profile was answered by the head of household (participation of other household members was acceptable). In this module information on each household member was collected in: demographic profile card (12 questions; covering all household members); education profile card (14 questions; all household members 6+ years old); health profile card (3 questions; all household members); current employment status card (16 questions; 10+ years old); and sources of income card (3 questions; 10+ years old).

Module 2 – Early childhood education and care was answered by the primary care taker of children (participation of other household members was acceptable). For each household member up to 6 years old the questions covered the following topics: Child Vaccinations (9 questions); Child Assessment (7); Attending Nursery / Kindergarten / Preschool (4); Parenting Techniques (3); and Kindergarten/Pre-School Characteristics (8).

Module 3 – Status of the household was responded by the household head (while allowing other household members to participate). This module collected: General household information (10 questions); information on Health (3); information on Incomes, Employment and Entrepreneurial Activity (22); and information on Levels of living standards and economic security (24).

Module 4 – Individual status and attitudes of the randomly selected respondent was administered to a randomly selected household member 16+ years old. The selection method is described above (Sampling). This respondent relied to questions covering the following topics: Health (19 questions); Values and norms (21); Migration – mobility (21); General discrimination – rights awareness (28); and Active citizen/trust (3).

The questionnaire was drafted in English, translated into local languages (in case of Moldova, both Moldovan and Russian). The questionnaire was not translated into local Roma languages – the interviewers did not report any difficulties in addressing the interviewees with national language questionnaires – the Roma enumerators or assistants to enumerators were at place in case of language problems. The national versions of the questionnaire were back translated into English. In each country the questionnaire was pre-tested on a sample of 10 households (7 Roma and 3 non-Roma) and necessary adjustments were made before the actual start of the fieldwork.

Following the agreement on coordination of the UNDP/WB/EC regional Roma survey 2011 with the 2011 Roma Pilot survey of the Fundamental Rights Agency, the questionnaire contained a limited number of questions formulated in the same way. The first results of this “merged” data from both surveys were published in early 2012.12

12/ The situation of Roma in 11 EU Member States. Survey results at a glance. FRA 2012
The data-set used in the UNDP working papers

The resulting dataset from the UNDP/World Bank/EC Regional Roma Survey 2011 is used in addition to the merged dataset from the inclusion of the FRA Pilot Roma Survey as the main data source of the “Roma Inclusion Working Papers” series launched by UNDP. Those papers address in-depth major aspects of Roma vulnerability in specific sectors and go beyond registering the status and depth of Roma exclusion. Using the quantitative data generated by the survey, the individual papers outline the fundamental factors contributing to exclusion and the internal linkages between them.13 This is what makes the papers highly policy-relevant and interesting both for researchers and for stakeholders working on Roma inclusion.

The two datasets (the one from the UNDP/World Bank/EC Regional Roma Survey 2011 and the one from the FRA Pilot Roma Survey) are derived from a similar sampling procedure described above and thus the pooled data for the five EU countries – Bulgaria, the Czech Republic, Hungary, Slovakia and Romania - can be used to improve the efficiency of the estimates. Individually, the survey indicators are similar in magnitude and direction. However, it is true that the results are statistically different for several indicators but this is due to a great extent on the large sample size of each dataset rather than significant differences in magnitudes (see Tables 5-7 as examples). As a precaution for any potential bias, analysis from the UNDP Working Papers use the merged dataset on a limited basis and only for demonstrating simple correlations rather than regression analysis.

The UNDP/World Bank/EC Regional Roma Survey 2011 has several different survey modules both individual and household level questions. One section specifically, the section on individual status and attitudes of a randomly selected respondent requires

Table 5: Literacy rate (Roma)

<table>
<thead>
<tr>
<th>Country</th>
<th>UNDP</th>
<th>FRA</th>
<th>T-test for Difference in Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>88.16%</td>
<td>86.20%</td>
<td>**</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>98.82%</td>
<td>94.84%</td>
<td>***</td>
</tr>
<tr>
<td>Hungary</td>
<td>94.74%</td>
<td>95.08%</td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>79.19%</td>
<td>71.36%</td>
<td>***</td>
</tr>
<tr>
<td>Slovakia</td>
<td>99.17%</td>
<td>95.38%</td>
<td>***</td>
</tr>
</tbody>
</table>


Table 6: Health insurance (Roma)

<table>
<thead>
<tr>
<th>Country</th>
<th>UNDP</th>
<th>FRA</th>
<th>T-test for Difference in Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>56.64%</td>
<td>41.80%</td>
<td>***</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>94.32%</td>
<td>91.29%</td>
<td>***</td>
</tr>
<tr>
<td>Hungary</td>
<td>90.83%</td>
<td>96.61%</td>
<td>***</td>
</tr>
<tr>
<td>Romania</td>
<td>50.78%</td>
<td>52.72%</td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>97.15%</td>
<td>91.78%</td>
<td>***</td>
</tr>
</tbody>
</table>


Table 7: Neighborhood change (Roma)

<table>
<thead>
<tr>
<th>Country</th>
<th>UNDP</th>
<th>FRA</th>
<th>T-test for Difference in Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>16.30%</td>
<td>10.45%</td>
<td>***</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>16.76%</td>
<td>17.61%</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>15.18%</td>
<td>14.76%</td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>34.68%</td>
<td>23.13%</td>
<td>***</td>
</tr>
<tr>
<td>Slovakia</td>
<td>30.73%</td>
<td>22.07%</td>
<td>***</td>
</tr>
</tbody>
</table>


the use of weights for estimation. The respondent in this section is randomly selected among household members aged 16 and above. The probability weight of choosing this individual over other adults must therefore be calculated and included. Weights are trimmed at 3 individuals over 16 for each household. They are then multiplied by the scale factor - the number of cases divided by the sum of the weights by country and
Roma/Non-Roma status. In the UNDP Working Papers these weights are used whenever variables from this module are included.

The analysis used in the UNDP Working Papers employs several statistical techniques including cross-tabulations, difference in means tests, graphical and regression analysis.

Cross-tabulations are the most frequently used analysis in the UNDP Working Papers. They are used to compare differences in frequencies or averages by Roma and non-Roma within a given country. Sometimes they are restricted to a further subsample like primary school aged children, or the unemployed. These tabulations help compare differences between Roma and non-Roma and are supplemented statistically by testing if the differences are indeed significant. They are also displayed graphically in histograms or line graphs, highlighting their results.

The UNDP Working Papers use a student t-test or a Pearson’s chi squared test to compare differences in means. Roma and non-Roma are compared for each country to test whether there is a significant difference in either the mean shares of the population or direct averages of an indicator like the mean number of rooms per household member or average years of education. The large sample sizes allow for mostly non-ambiguous results when testing the null hypothesis of no difference in means in favor of the alternative two tailed hypothesis, that there is a difference (either positive or negative). The student t-test is used when variables are binary; poor or non-poor, literate or not, have health insurance or not, etc. The t-distribution looks like a normal distribution with fatter tails, so it is more likely than the normal to generate values far from the mean.

Depending on the number of observations in the estimate, number of restrictions in the hypothesis being tested, and the level of significance desired critical t values at the tails can be found. If you compare the t statistic from the difference in means test to these critical t values, you can determine whether your result is statistically significant at different significance levels, or p values. Usually one chooses significance levels of 10 percent (p=0.10), 5 percent (p=0.05), or 1 percent (p=0.01) and rejects the null hypothesis, no difference in means, if the estimated t-statistic is greater than the critical t values at the chosen significance level. The Pearson’s chi-squared test is used for comparing indicators with multiple responses like comparing sources for heat or for cooking by Roma and non-Roma. In some instances the test is also used for binary comparisons (where it returns the phi coefficient). Rather than the student t distribution this test follows the chi-squared distribution and is analyzed in much the same way. It again tests the null hypothesis that there is no difference in means against the alternative that there is a significant difference between Roma and Non-Roma.

Regressions expand on cross-tabulation as a way of analyzing the effect of multiple independent variables on a dependent variable. The UNDP Working Papers sometimes employ regression techniques in identifying possible causes of school attendance, employment or wages, health, etc. These techniques test a variety of hypotheses without the bias of omitting key variables. By including various factors in a multiple regression context, under specific assumptions, we can control for those effects on both the factor and the outcome. The following is one such example employed in the UNDP Working
Paper on Education and can be used as an example of the technique most applied:

$$\text{Dropout}_i = \alpha + X_i \beta + y_{rural} + y_{romanidominant} + y_{primarywalk} + COUNTRY_j Z + e_i$$

This probit model estimates the possible factors contributing to school attendance among children ages 9 to 17.\(^{14}\) We use a standard probit because the dependent variable is dichotomous and we want to estimate what effect the independent variables have on the probability of having dropped out/not attending school. \(\text{Dropout}_i\) is the dependent variable equaling 1 if the individual is not attending school, 0 otherwise. Independent variables are tested for whether they have an effect on the dropout rate while controlling for the other variables in the regression: \(X_i\) are a vector of demographic variables of person \(i\) like gender, age, and Roma or Non-Roma status, \(rural_i\) equals 1 if the person lives in a rural area, \(romanidominant_i\) equals 1 if person \(i\) lives in a majority Roma area, \(primarywalk_i\) is the distance to a primary school from person \(i\), and \(COUNTRY_j\) is a vector of country dummies equal to 1 if the individual lives in \(COUNTRY_j\). The model also controls for the country sampling procedure by clustering errors on the country level to give more precise results. The estimation proceeds using maximum likelihood methods. The resulting coefficients and standard errors are then used to test if the null hypothesis of no effect on the dropout rate can be rejected for each of these variables. Finally, we can calculate the marginal effects from these initial estimates and find out the effect of a marginal change in an independent variable on the probability of dropping out of school\(^{15}\).

A few other regression techniques are applied in the papers however, the probit is the most common. Where it is not applied there are appropriate descriptions of the regression techniques employed.

\(^{14}\) The model is written as a linear regression for ease of view but formally the probit is  
$$\text{Pr}(y>0|X)=\Phi(X' \beta)$$  
where \(X\) are all the variables in the model, \(\text{Pr}\) stands for probability, and \(\Phi(\cdot)\) is the CDF of the normal distribution. It is important to note that there are different modeling techniques with varying complexities that could be employed with this dataset but these are meant as a preliminary examination of different hypotheses under a multiple regression context. Also note that the model does not give general Roma/Non-Roma population results but rather follows the data sampled by providing results for the marginalized Roma and neighboring majority population subsample.

\(^{15}\) See the UNDP Working Papers for more specific examples of this procedure.
Conclusions

Providing a single and precise definition of the ‘Roma universe’ is close to impossible. “Roma” is not just a multifaceted category and a meta-group – it is also a political construct and its meaning differs depending on the interpretative frameworks of the different sides involved in the debate on the issue. Roma identity may also be quite situational and reflective defined vis-à-vis the non-Roma (the Gadzo).

This doesn’t mean though that sampling surveys targeting Roma populations are not possible and the data generated through them are not sufficiently robust. It is possible to generate meaningful and policy-relevant data on the status of Roma.

The key in that regard is properly defining the target – the Roma living in the communities where they are overrepresented. “Overrepresentation” is correlated with higher risk of marginalization and exclusion. Those are the groups requiring (and increasingly receiving) support, including through development projects targeting those communities.

The methods tested in the UNDP, WB and FRA surveys allow for generating exactly such policy-relevant data. It doesn’t allow drawing conclusions on the status of “all Roma” – but it does make possible outlining the challenges and the needs of those who need support most. This is what makes the methodology highly policy-relevant. In the end, the process of Roma inclusion means including the excluded.


16/ The electronically available publications were last accessed on 20 December 2012.


