

# **Roma Integration in Bulgaria: Necessary Reforms and Economic Effects**

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## **Introduction**

The present report has been prepared by Georgi Angelov and Luchezar Bogdanov under a project initiated by the Open Society Institute – Sofia. The opinions and assessments expressed in the text are those of the authors and do not necessarily reflect the position of OSI – Sofia. The research work on the present paper was conducted in the period January – April 2006. The report was updated in March–April 2007.

## **Methodology**

### *Terms*

In the present paper, “integration” and “inclusion” have been used as synonyms in the common meaning of these words. “Non-integration” denotes the opposite status quo, i.e. the current situation in the case of the Roma community in Bulgaria.

While non-integration, being a status quo, is quite clearly defined, integration (a future, desired situation) has different degrees. Everywhere in the text, when we describe the effects of “integration”, we indicate specifically what are the dimensions or the parameters of this condition; in many cases we examine several scenarios depending on how close we get to the notion of “ideal” (full) integration.

When we refer to “reforms” in the text, we mean all actions that produce change in public policy in the respective area. In any case “reforms” are described by either their goals or the set of specific measures proposed. When we are trying to illustrate the potential economic benefits of some change in a given parameter, we use the term “reform” as a collective concept denoting the measures, which ultimately would modify the parameter to the desired degree, without necessarily reasoning whether such reform is possible or how could it be implemented.

### *Objectives*

The present analysis pursues the following objectives:

- to outline the economic effects of non-integration of Roma population in Bulgaria;
- to identify the main economic policies of the government, which are a factor for the lack of integration;
- to propose changes in government policies that could contribute to the integration of Roma population;
- to describe and (whenever possible) measure the potential economic effects of integration, which could come as a result of the individual reforms proposed.

### *Scope*

Due to the nature of its objectives, the analysis focuses on the economic implications of integration. Since we are trying to describe and (whenever possible) measure the potential economic effects of integration, the main subject of our research are the factors that generate the most significant economic effects. In this sense, the report does not claim to be exhaustive.

### *Approach and main proposition*

The report is based on the understanding that the inclusion of Roma in economic life is of key importance for their overall integration in society. Economic integration is both an instrument for solving other problems arising from the lack of integration, as well as a consequence of government policy reforms that perpetuate non-integration. The analysis aims at identifying the factors that frustrate economic integration, as well as the potential effects (both economic and other) that integration could bring about. Thus, we focus our attention on factors such as education, criminality, housing, mortality.

The report takes for granted that the legislative framework, which guarantees individual Roma rights, is in place and is being enforced effectively. Therefore, we are examining a state of society free of ethnicity-based violations of these rights.

A major assumption is that changes in the incentives bring about changes in behavior. This is essentially the basis of economic science. We do not deny the impact of other factors (such as traditions, psychological predispositions, etc.), but while recognizing their influence, we assume that changes in the incentives would bring about related changes in the way Roma act.

### *Methodology and ratiocination*

We use the conventional methodology of neoclassical economic analysis. The basic assumptions on human behavior have been adopted with no further justification. The methodology also assumes that:

- The use of the “if–then” construct denotes causality;
- Dependencies are examined separately in a *ceteris paribus* situation (i.e. with all things being equal), although no such situation exists in reality;
- In many cases it is impossible to identify which of the dependencies produces the strongest impact;
- “Benefits” and “costs” have always been incurred by someone – either “individual”, “group” or “society”;
- Causal links are derived from economic theory, while quantitative measurements are based on empirical research results;
- Estimates on the value of certain variables, instead of real data, are used only to illustrate the effect of a hypothetical scenario.

Data sources include official statistical publications, as well as results of published research studies that are known to the authors. The report is not exhaustive with respect to the entire body of information collected and accumulated on the subject. The authors have not collected new data through direct field research.

## **1. Roma, Poverty and Bulgaria's Social Assistance Model**

### *General overview*

The existing social assistance and social insurance system has a broad coverage. According to World Bank estimates<sup>1</sup>, for example, more than 80% of the country's population in 2001 has benefited from at least one program. Reforms over the last years have been targeted precisely to "narrowing" the group of beneficiaries in order to improve the impact of social assistance policies. Nevertheless, we can claim that currently the scope of the system is still broad, comprising a large number of programs with complicated conditions. (According to the World Bank<sup>2</sup> at the end of 2005, 8 out of 10 individuals are still benefiting from at least one social program).

Public spending on social policy could be classified as follows:

- spending from the public social insurance budget (807 million leva under the 2007 budget)
- spending from the budgets of ministries and other agencies (874 million leva under the 2007 budget)

Thus, those who pay social insurance contributions finance approximately 48% of the social programs, while the remaining 52% are covered by general tax revenues. The situation differs from 2006 when this ratio was 45:55. We are registering a decrease in the social budgets of ministries and public agencies, which reflects the overall decline in the number of beneficiaries as a result of reduced poverty and increased economic activity. We should also note that this change reflects the reconsidered budget priorities of the government after the country's accession to the EU – more resources are being targeted to activities encouraging economic growth, infrastructure development and human capital improvement. Social transfers as a whole are increasing at a slower pace than general public costs (by 4% compared to 2006) and most of the increase results from higher childbirth and maternity benefits, while unemployment benefits are decreasing.

Based on the type of assistance provided, the following programs can be identified:

- unemployment benefits (under the Social Insurance Code)
- maternity and child rearing benefits (under the Social Insurance Code)
- assistance for people with disabilities (under the Integration of People with Disabilities Act)
- income-based social assistance (under the Social Insurance Code)
- targeted heating subsidies (under the Social Insurance Code)
- child allowances (under the Family Allowances Act)
- active labor market measures (subsidized employment)
- others

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<sup>1</sup> World Bank, Bulgaria: Public Expenditure Issues and Directions for Reform, Washington DC, 2003.

<sup>2</sup> World Bank, Bulgaria: The Road To Successful EU Integration – The Policy Agenda, Country Economic Memorandum, November 2005.

Under the draft budget for 2007, spending on the above measures is divided as follows:

Measure	Funding in million leva	
	2006	2007
unemployment benefits	115	98
maternity benefits	34	117
child rearing benefits	105	75
assistance for people with disabilities	127	128
social assistance	90	86
heating subsidies	115	110
child allowances	278	271
active labor market measures	204	213
<b>total on above programs</b>	<b>1068</b>	<b>1098</b>
other programs	547	583
<b>total spending</b>	<b>1615</b>	<b>1681</b>

Source: MoF

At macroeconomic level, spending on social assistance amounts to approximately 3.3% of GDP and approximately 8.3% of total public spending. Part of the expenses, however, quite logically “belongs” to the pension system – health insurance contributions for retired persons, for instance. Another part includes the conditionally fixed administrative governance and maintenance costs of the institutions that implement the different programs.

It should be noted that after the adoption of active labor market measures (i.e. the creation of subsidized new jobs) which were also linked to the receipt of social assistance benefits, there was a noticeable shift in the relative weight of the different budget lines – benefits under the Social Assistance Act amount to “only” 90 million leva approximately, while employment promotion funding exceeds 200 million leva annually.

### ***Social assistance and Roma***

Currently there are no ethnicity-based data on the beneficiaries of different social programs. All we can use is a series of approximations made based on various sociological research studies and expert evaluations. Thus, for instance:

- According to a UNDP report<sup>3</sup>, nearly 80% of Roma declare that they are unemployed, while a little more than 50% fall within the broad definition of “unemployment” of the International Labor Organization. As of 1997, 85% of Roma fell below the poverty line.
- According to a World Bank report<sup>4</sup>, in 2001 approximately 62% of Roma were assessed as being “poor”.

<sup>3</sup> “Avoiding the Dependency Trap: The Roma in Central and Eastern Europe” (UNDP 2003).

<sup>4</sup> World Bank, Bulgaria: Public Expenditure Issues and Directions for Reform, Washington DC, 2003.

- According to the National Plan on Fighting Poverty and Social Isolation, adopted by MLSP in 2005, nearly 64% of Roma were “poor” as of 2003.
- According to another analytical paper<sup>5</sup> of 2004, only 22% of Roma claimed that they have a job.

In the same time, we should bear in mind that a substantial share of social assistance benefits are determined based on the number of children in the household. According to data from the 2001 census, the members of the Roma community under the age of 19 are approximately 160 thousand out of a total of 370 thousand Roma, or some 43%. In Bulgaria as a whole, adolescents under the age of 19 number 1.7 million, or 22% of the entire population. 9.5% of all children in the country are Roma.

For the purposes of the present analysis, we are concerned with the Roma beneficiaries of those programs that are linked to poverty and lack of integration in the Roma community. These are the benefits related to children, the heating subsidies, the income-based assistance, as well as the unemployment benefits. Furthermore, we examine two estimates for the total number of Roma in the country – 370 thousand (according to 2001 census data) and 580 thousand (according to an estimate made by the authors based on data from different sources). Taking into consideration the indicators on the demographic structure of Roma, the poverty and unemployment within the Roma community, as well as the total number of beneficiaries in each program, we could make the following estimate on the share of funding that is currently targeted to Roma.

Million leva	Total by programs	Low estimate		High estimate	
maternity and child rearing benefits	140	12%	17	19%	26
social assistance and active labor market measures	294	62%	184	98%	287
heating subsidies	115	25%	29	39%	45
child allowances	278	17%	47	27%	74
<b>total</b>	<b>827</b>	<b>33%</b>	<b>276</b>	<b>52%</b>	<b>432</b>

Thus, the “price” of non-integration expressed in less public spending ranges between 283 and 443 million leva in transfers per year. Our estimate for 2006 ranged between 276 and 432 million leva. Based on these calculations, the transfers received by the Roma community are increasing at a slower pace than the total transfers under different programs – by approximately 2.5%. The main reason for this is the general trend towards reducing or maintaining the level of costs associated with those programs in which the share of Roma among beneficiaries is relatively higher.

The program budget of the Ministry of Labor and Social Policy envisages the following dynamics in the number of beneficiaries of different programs:

- the number of persons (households) receiving monthly benefits under the Social Assistance Act remains unchanged at 112,500;
- the beneficiaries of one-time grants for pregnancy are increased from 24,500 to 26,000;

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<sup>5</sup> Pobeda Lukanova, Lilia Dimova, Nikolai Kolev, “Roma in Bulgaria and Their Education”, Sofia 2004.

- the beneficiaries of one-time grants for childbirth are increased from 70,000 to 71,350;
- the beneficiaries of monthly child allowances are increased from 904,600 to 952,000;
- the beneficiaries of monthly childrearing benefits for children up to 12 months of age are increased from 28,785 to 29,900.

These figures indicate that the scope of social transfers is not extended as a result of some change in the social policy of the government, but rather reflects demographic trends.

The only program for which the allocation for 2007 is significantly higher are the maternity and childrearing benefits because paid maternity leave was extended from 135 to 315 days. The additional 83 million leva were allocated from the budget of the National Social Security Institute. This program, however, has a negligible effect on mothers who are unemployed or are employed at the minimum salary, and hence, we believe that it has a small impact on the transfers received by the Roma community. In the same time, the eligibility period for receiving monthly social assistance was limited to 18 months in order to encourage the inclusion of long-term unemployed in the labor market.

The major developments in social transfers in 2007 are:

- The level of one-time grants for maternity and childbirth, of monthly childrearing benefits for children up to 12 months of age, and of monthly child allowances remained unchanged.
- The guaranteed minimum income set on June 1, 2005 at 55 leva also remained unchanged.
- A new program – “Social inclusion of other risk groups in the population” – was launched; the program will be financed by the European Social Fund and the Phare Program and together with the national co-financing, the budget will reach 49 million leva.
- The period for which unemployed persons of working age (with some exceptions) may receive monthly social assistance was limited to 18 months.
- Since the end of 2006 monthly child allowances are payable only to those families whose children attend school regularly.

### ***Assistance and incentives: how social assistance hinders integration***

The current social assistance system is the main obstacle to the integration of Roma in economic life, as well as to the added-value creation process. There are several reasons for this assessment:

- People with poor education and vocational training and no professional experience usually enter the labor market at a low wage (i.e. lower than the average). In the same time, comparable income with considerably less efforts could be generated from subsidized employment programs and other social payments.
- Social assistance depends strongly on the size of the household. Given the significantly higher birthrate within the Roma community, Roma are “favored” by the

system. In this sense, the model creates incentives for having more children who in turn could be considered as a source of income from social assistance.<sup>6</sup>

- The relatively “generous” social benefits, against the alternative of entering the labor market, create a long-term dependence from the system. This is so because social assistance is almost exclusively based on household size. Meanwhile, since benefits are comparable to (or in some cases higher than) the marginal productivity of adults in the household under the current labor market conditions, a large share of beneficiaries remain economically inactive and take advantage of the opportunity to receive income directly from the state. This encourages births (yet again because benefits are linked to household size), but reduces the drive for education, which in turn limits the integration chances of the next generation.

Therefore, Roma poverty and non-participation in economic life is both a cause of considerable public spending on social assistance and an outcome of the current social policy model. The direct effect of a future “inclusion” of Roma in the labor market, provided that full inclusion is achieved, could reach 283-443 million leva per year at the most, for both estimates on the size of the community. At a macroeconomic level, this would account for 0.6 – 0.9% of GDP. The effect is relatively low compared to 2006 because of the high nominal economic growth and the slower increase in spending for social programs.

Other costs include the so-called invisible costs for society, which arise from the fact that the benefit of those who receive the transfers is smaller than the cost of those who pay taxes or social insurance contributions. These costs result from the distortions, which transfers produce on the markets (taxes and social insurance contributions are “wedged” between the payments made by employers and the amounts received by employees). These costs could be calculated with the relatively widely accepted ratio of 3:1, i.e. each 3 leva in transfers generate 1 leva of loss due to inefficiency.<sup>7</sup> Conversely, a 3 leva reduction in transfers produces an additional benefit for society amounting to 1 leva because the inefficiency loss is smaller. If transfers to Roma are reduced, the benefit from smaller inefficiency losses would range between 0.17 and 0.3% of GDP.

#### **Box: The Roma household: work or welfare?**

Although at first sight social benefits in Bulgaria may seem low (the guaranteed minimum income, for example is 55 leva, while child allowances vary between 18 and 20 leva per month), in reality a family with more than two children could raise a substantial income.

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<sup>6</sup> Research shows that “*women who receive social assistance tend to have more children and are willing to have more children than women who do not receive social assistance*”. See, for instance, Douglas J. Besharov (1998), *Remarks at the conference Pregnancy Prevention and Welfare Reform*, Welfare Reform Academy.

According to other authors, poor families tend to have more children and as they grow richer the number of children reduces. See for example, Jeffrey D. Sachs, “The End of Poverty”, 2005.

<sup>7</sup> Robert W. Hahn and John A. Hird, “The Costs and Benefits of Regulation: Review and Synthesis,” *Yale Journal on Regulation* 8, 1990.

For instance, the report “Labor Market in Bulgaria” (USAID, Sofia, 2003) indicates that:

*“A parent would start work only if the gross salary guarantees disposable income, higher than the amount of social benefits. Let us call this gross salary level “minimum motivating level to encourage employment”. Thus, for example, in a family with two children and two unemployed parents, the initial salary that would encourage one of the parents to seek employment, should be higher than 141 leva, while in a family with 7 children it should be around the average for the country, or 290 leva.”*

We will study the case of a household, in which the husband is involved in the subsidized employment program and receives an income of 180 leva per month (i.e. the minimum salary). The wife takes care of 4 children and is entitled to social benefits, as well as child allowances. In addition, the household receives heating subsidies. We should also take into account different one-time social payments, such as for instance the one-time grants for pregnancy and childbirth. According to our estimates, given the current social assistance levels, this household would receive a net income of about 490 leva per month. This, of course, is the highest possible amount of potential income; not all households with such characteristics are able to benefit from all existing programs.

In the same time, if both adults are employed and receive the average salary for the country (approximately 360 leva), their net income (excluding social insurance contributions and personal income tax, and including child allowances) would be around 650 leva. However, given the low education level and lack of work experience among Roma, it seems rather unlikely that employers would hire Roma at an average salary; most probably their income would rather be slightly higher than the minimum salary and comparable to that of the least qualified types of labor (i.e. within 220-260 leva per month or approximately 2/3 of the average salary).

Thus, even under an “optimistic” employment scenario, the income of a Roma household would increase with approximately 33%, while under a “realistic” scenario it would probably even decrease by approximately 3%. This comparison does not take into account the different efforts that are needed to realize each alternative; although some form of labor is required to be eligible for assistance, its intensity can hardly be compared with that of being employed in the unsubsidized private sector. Thus, “social assistance” seems like a rational choice for an individual and probably the decision not to participate in the labor market is a matter of volition, rather than a result of discrimination, lack of opportunities or skills.

It should be noted, however, that the change in incentives is greater than in 2006 when according to our estimate the “reward” for getting a job was a 20% increase in income in the first scenario and a 10% increase in the second scenario. The main reason for this is that income generally increased as a result of quick economic growth, while the level and scope of social transfers remained almost unchanged.

### ***Welfare system reform in the USA***

In 1996 the US Congress adopted an act, which reformed the welfare system. Here are some of the effects, which this act produced:

- By 1994, welfare caseloads had reached a historic high of 5.1 million families, but then a seven-year decline began that eventually reduced the number of welfare recipients by 60%.
- Employment rates among single mothers, the group most affected by welfare reform, have been slowly increasing for over 15 years and have jumped markedly from 60% in 1994 to 72% in 1999.
- Among single mothers who have never been married (the group with the lowest levels of education and some of the highest rates of welfare receipt) employment rates rose even more, from 47% to 65% over the same period.
- Most people leaving welfare find work. 60 to 75% of welfare leavers find employment, while 30% of those who remain in the system are also employed.
- The employment rates of welfare beneficiaries, who leave the system because they hit a time limit, are quite high – over 80%.

These effects were produced by introducing several changes in the welfare system:

- Introduction of mandatory work requirements (and/or attendance of educational or vocational training courses);
- Decrease in the marginal tax rate (loss of income) at the transition from welfare to work;
- Harsher sanctions for violations of welfare eligibility requirements;
- Imposition of time limits for receiving welfare;
- More financial incentives to work;
- Welfare reform accounted for one-fourth to one third of the decline in the number of welfare recipients, with the importance of the economy being slightly higher, while the expanded Earned Income Tax Credit explains 20 to 30% of the decline.

### ***Non-participation on the labor market***

What type of social benefits discourage participation on the labor market? In general terms, the choice not to seek employment is made when the income in the two alternative cases is compared. Therefore, the goal of social policy reform should be to reduce the amount of social payments. In order for this to happen, rather than insisting that the integration of supported groups is impossible and therefore, the State should provide them with enough income to survive, policy-makers should adopt the understanding that a social policy based on transfers to a great extent results in dependence and refusal of integration in economic life. Several measures could produce a similar impact:

- establishing a stronger link between social transfers and children's school attendance – currently this criterion applies only to monthly child allowances but not to the social benefits provided under the Social Assistance Act;

- introducing mandatory work requirements for those receiving social benefits under the Social Assistance Act or unemployment benefits – the current minimum of 5 days per month is quite low;
- making the receipt of social assistance and benefits conditional upon attendance of educational or vocational training and re-training courses.

A reform towards reducing the amount of social benefits or changing the mechanism for their allocation, however, could have a far more significant effect on the incentives for integration among Roma themselves who would be encouraged to:

- actively seek employment, even with a low initial salary;
- avoid criminal behavior: among other things, people refrain from criminal activities because they are afraid that they might lose certain opportunities, including the alternative to participate in the labor market; when Roma do not see the long-term opportunities and benefits of their integration into the formal economy, they feel that they do not lose much, while engaging in criminal activities;
- reduce birthrate;
- target efforts towards the education of children – education should be understood and accepted as a necessary condition for generating income in the future; if Roma do not see their future on the labor market and expect that their children would also live on social assistance, they would have few incentives to invest in their children’s education today.

The first change in behavior would produce a virtually immediate effect. The other three would create better opportunities for the next two generations – for today’s children and school students, as well as for those who would be born after the reform.

We should also take into account the assessment of different analytical studies, including the latest Country Economic Memorandum of the World Bank<sup>8</sup>, according to which there is a variety of other measures that discourage participation on the labor market. Unemployment benefits, for instance, are being paid out over a relatively long period of time. Sick leave payments in effect generate a higher than the regular net income for the worker at the same gross salary. The “protection” of mothers, which is higher than the usual for market economies, makes employers extremely cautious in hiring young women. The possibilities for early retirement are exceptionally generous, despite of recent measures to limit the abuse of disability pensions.

Meanwhile, it should be noted that cutting down social benefits and applying economic pressure on current beneficiaries would not lead to immediate “inclusion” to the labor market. It would require an economic environment in which the demand for labor increases. Demand, on the other hand, could grow if there is an overall growth in the

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<sup>8</sup> World Bank, Bulgaria: The Road To Successful EU Integration – The Policy Agenda, Country Economic Memorandum, November 2005.

value added. A statistical analysis of the World Bank<sup>9</sup> based on data for the last 8 years shows, for example, that there is a strong link between the level of GDP and the level of employment, with the correlation coefficient being 0.68. Eliminating the obstacles to labor market flexibility is both a factor for general economic growth, as well as a necessary condition for increasing employment opportunities against the background of a growth, triggered by other factors. Such obstacles are the general income and social insurance taxes on labor-related costs, as well as the restrictive regulations of labor legislation. The necessary general reforms that would open up the labor market are discussed in Section 3 below.

## **2. Employment and income**

There are many discrepancies in the available data on Roma unemployment. According to different estimates unemployment rate among Roma varies between 40%<sup>10</sup> and 80%<sup>11</sup>. In any case, the level of unemployment among Roma is considerably higher than among other groups of the population.

In a normal situation, if there are no serious distortions on the labor market and the market works flexibly and effectively, unemployment would be around its natural levels of 4-6%, which in effect means that anyone willing to work would be able to find a job within a relatively short period of time. High unemployment rates indicate that there are serious difficulties in the way labor market functions, which limit the access to employment opportunities for certain groups of people. Most often these are people who had been very close to the labor market threshold, but have fallen below the threshold as a result of some labor market distortions.

### **Labor market flexibility**

Lack of labor market flexibility has a negative impact on unemployment and labor force participation.<sup>12</sup> According to World Bank data<sup>13</sup>, this is precisely the case in Bulgaria. Out of 155 countries across the world, Bulgaria rates:

- 115<sup>th</sup> with regard to the difficulties of hiring workforce;
- 104<sup>th</sup> with regard to working hours rigidity;

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<sup>9</sup> World Bank, Bulgaria: The Road To Successful EU Integration - The Policy Agenda, Country Economic Memorandum, November 2005.

<sup>10</sup> "Faces of poverty, Faces of hope" *The Magnitude of the Challenge* (2005), United Nations Development Programme.

<sup>11</sup> "Avoiding the Dependency Trap: The Roma in Central and Eastern Europe", 2003, United Nations Development Programme.

<sup>12</sup> Juan C. Botero, Simeon Djankov, Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer (2004), *The Regulation of Labor*, World Bank.

<sup>13</sup> World Bank, *Doing Business Database*, 2005.

- 34<sup>th</sup> with regard to the difficulties of firing workforce;
- 84<sup>th</sup> based on the general labor market rigidity index;
- 140<sup>th</sup> with regard to hiring costs, an unenviable position;
- 58<sup>th</sup> with regard to firing costs.

In 2006 Bulgaria has moved six places up in the overall labor market rating and now ranks 100<sup>th</sup>. Nevertheless, further efforts are needed to increase labor market flexibility by reducing barriers and limiting hiring and firing costs.

### **Taxation and social insurance burden on labor**

High taxation reduces incentives for employment.<sup>14</sup> Other conditions being equal, high taxation of labor leads to high long-term unemployment (unless taxes are covered entirely by the workers), lower supply of labor, less hours worked and lower employment coefficient<sup>15</sup>. This is particularly valid for marginal groups in society (young people, older people, women, members of minorities, people without experience or education).

The negative effect on the demand for labor is strongest when high taxes (tax wedges) are coupled by a statutory minimum salary. This combination is extremely detrimental to less skilled workers<sup>16</sup> such as Roma. The taxation of labor with income tax and social insurance in Bulgaria takes away between 1/3 and 1/2 of the workers' income, which combined with the relatively high minimum salary (as a percentage of the average wage) has an extremely negative effect on the employment of Roma. According to different estimates, a reduction in the "tax wedge" by 10% would lead to an increase in employment, ranging between 2.5 and 5%.

Given that low income is non-taxable or is taxable at a very low rate, the only way to actually reduce taxation for the low-income groups is to lessen the social insurance burden. In 2006 social insurance taxes amount to a little over 36% of the gross wage – a rate, which is much higher than the best examples in Europe (in Ireland, for instance, the social insurance burden is three times lower). A further reduction in social insurance contributions, similar to the 6-% reduction that was introduced in 2006, could bring their levels down to those in Ireland over the next four years.

Since currently the majority of Roma are unemployed (and hence, pay no social insurance), while those who do work are insured at relatively low gross salaries, a reduction in social insurance contributions would not lead to transfer of income from non-Roma to Roma. Although the budget would lose part of its surplus, society as a whole would gain exactly the same amount (while the overly high tax burden would be

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<sup>14</sup> Prescott, E. (2004) "Why Do Americans Work So Much More Than Europeans?", Federal Reserve Bank of Minneapolis Quarterly Review, vol. 28, No. 1.

<sup>15</sup> Giuseppe Nicoletti and Stefano Scarpetta (2005), *Product Market Reforms and Employment in OECD Countries*, OECD Economics Department Working Papers No. 472, OECD and World Bank.

<sup>16</sup> Giuseppe Nicoletti and Stefano Scarpetta (2005), *Product Market Reforms and Employment in OECD Countries*, OECD Economics Department Working Papers No. 472, OECD and World Bank.

avoided). Therefore, from a society's point of view, a reduction of social insurance contributions would bring about benefits, rather than costs.

### **Economic reforms to speed up economic growth and increase investment**

The faster an economy develops, the better opportunities exist for opening new jobs and hence, reducing unemployment (provided that labor market functions effectively, of course). Therefore, quick reforms encouraging economic growth would ensure faster and better results on the labor market. Such reforms include: reducing tax burden on income and profit, improving the efficient use of public funds, strengthening the judicial system, reducing bureaucracy and administrative interventions, improving the business environment, breaking down monopolies, promoting decentralization and privatization, introducing a procedure for cost-benefit analysts, etc.

### **Product market regulation and obstacles to entrepreneurship**

Market regulation in goods and services has a serious negative effect on the labor market. Strong government control over the economy, as well as high entry barriers and hence, less competition, limit significantly employment levels in the long run. An OECD research paper<sup>17</sup> claims that the effect in its lower margin is approximately 5% of overall employment and could be even higher, especially in economies, in which the labor market is not flexible enough.

There are a lot of obstacles to entrepreneurship in Bulgaria, including entry barriers, administrative compliance costs, privileges that protect certain groups of people against competition:

- expensive, complicated and time-consuming procedure for registering an enterprise;
- difficult and time-consuming procedures for obtaining the required licenses, which are also associated with high taxes;
- high administrative costs – lots of forms and declarations to fill in, visits to administration offices to be made, accounting standards and rules to be followed, unclear procedures, mandatory registration of labor contracts, etc.;
- time-consuming, difficult and expensive bankruptcy procedures and exit requirements;
- inefficient judicial system that is unable to adequately protect property and enforce contracts;
- high taxes and semi-tax dues – fees, procedures;
- privileges that protect certain businesses against competition.

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<sup>17</sup> Giuseppe Nicoletti and Stefano Scarpetta (2005), *Product Market Reforms and Employment in OECD Countries*, OECD Economics Department Working Papers No. 472, OECD and World Bank.

These obstacles affect to a greatest extent people who have few resources and are unable to overcome even the initial barriers. In other words, Roma are disproportionately affected by the obstacles to entrepreneurship that exist in the country.

### **Promoting education**

A person who has no reading, writing or arithmetic skills could hardly find a job and expect any meaningful professional development. Among young people, this problem could be addressed through changes in the education system. In addition, families who receive social assistance could be stimulated to ensure that their children attend school regularly by introducing harsh sanctions and suspending welfare in case of non-attendance. Older people who receive social assistance could be encouraged to attend classes in reading, writing and calculus, as well as other practice-oriented courses by making the participation in such courses a necessary condition for receiving welfare.

Costs associated with adult education. According to a recent UNDP research<sup>18</sup> literacy (ability to read and write) ranges between 71% and 88% in the different age groups. According to NSI data, quoted in a research study of the Ministry of Finance<sup>19</sup>, 12.7% of the entire Roma population are illiterate. If we assume that in the worst case scenario approximately 30% of all adult Roma are illiterate, then their number would be between 63 thousand and 100 thousand people (depending on the population estimate used).

### **Marginal income tax rate at the transition form welfare to work**

According to a research paper of the United States Agency for International Development<sup>20</sup> the amount of social assistance compared to average income levels leads to a situation in which “none of the parents has economic interest in starting work at the minimum wage because the family would generate the same income [...] only from social assistance and targeted subsidies”. In other words, if a person stops receiving social benefits and starts work at the minimum wage, his or her income would be almost the same, i.e. although the person would make 160 leva more, his or her income would remain the same, which equals to a marginal tax rate of 100%.

This obstacle to getting a job could be overcome in several ways:

- by linking the receipt of social assistance with a certain number of hours worked per week and participation in training courses;
- by reducing the amount of social assistance;

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<sup>18</sup> “*Faces of poverty, Faces of hope*” *The Magnitude of the Challenge* (2005), United Nations Development Programme.

<sup>19</sup> *Public Spending Review: Education – Current Status, Problems and Opportunities*, Ministry of Finance, 2004.

<sup>20</sup> *Labor Market in Bulgaria in 2003* (2004), United States Agency for International Development, Labor Market Project.

- by introducing a time limit for receiving welfare, after which benefits would gradually decrease and be suspended at some point;
- by eliminating entirely or partially the link between income and social assistance for the long-term unemployed. Thus, they would be able to work officially without losing the entire amount of their benefits, at least for a certain period of time.

### **Other obstacles to employment**

Employment in the public sector has an ousting effect<sup>21</sup> and reduces employment in the private sector and according to some research studies, even in the economy in general. The excessive protection against firing, which public sector employees enjoy, as well as the job performance requirements and the sanctions for poor quality of work in the private sector, make public sector jobs more lucrative, especially when salaries are high enough and are not based on the volume of work performed. Moreover, too high staffing levels in the public sector imply higher taxes for the private sector, which leads to slower growth, higher unemployment and low income in the entire economy.

A recent research of the German Institute for the Study of Labor<sup>22</sup> identifies serious downsides of compulsory military service. Military draft hits young men during a period of their lives that they would otherwise devote to the accumulation of human capital: education, studying, vocational training, gathering first experiences on their job. The draft interrupts or postpones this process. Moreover, draftees see the human capital they accumulated before the draft depreciating during service. Both effects imply a reduction in the economy's stock of human capital. The draft is an in-kind tax, one-sidedly levied on young people.

Compared to "normal" monetary taxation the burden of the draft tax, measured in terms of the present value of the reduction of taxpayers' lifetime incomes, is higher. This reduces savings and capital accumulation in the economy. Compulsory military service slows down economic growth by 0.25 to 0.5% annually with all the negative effects that this has on employment, income and unemployment. An amendment to the National Defense Act, which eliminates compulsory military service is entering into force at the beginning of 2008.

The high minimum salary levels act as a price floor or a minimum price, which generally leads to lower demand for labor, on one hand, and to oversupply of labor, on the other. The result is surplus of labor, i.e. unemployment. Minimum salary has a negative impact on low productivity workers, young workers and employees (including teenagers), unqualified workers and employees with no previous experience, people with disabilities. These population groups are not productive enough to receive even the minimum salary and therefore, they cannot find a legal employment. In effect, they are forced to either

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<sup>21</sup> Giuseppe Nicoletti and Stefano Scarpetta (2005), *Product Market Reforms and Employment in OECD Countries*, OECD Economics Department Working Papers No. 472, OECD and World Bank.

<sup>22</sup> Katarina Keller, Panu Poutvaara, Andreas Wagener (2006), *Military Draft and Economic Growth in OECD Countries*, Institute for the Study of Labor, IZA DP No. 2022.

live on social assistance or try to work “illegally”, at salaries that are below the minimum.

The current minimum salary of 180 leva equals to 200 leva of labor costs for the employer. When we add capital and administrative costs, as well as the employer’s standard profit rate, the monthly productivity of a worker, depending on the specifics of the production, should be between 250 and 300 leva in order for this worker to be hired on the labor market. This is too high a threshold for many people without experience, education, qualification and knowledge, the majority of which are Roma.

### **Demand for labor and Roma integration**

There are concerns that many social groups, including Roma, which are now permanently excluded from the labor market, would be unable to find work even if the general demand for labor increases significantly. These concerns are based on several arguments.

The first one has to do with the recent economic history, i.e. the dynamic of employment over the last 10 years. It is true that the considerable reduction in unemployment after 2001 was not accompanied by a proportionate inclusion of the Roma community in active employment. We should bear in mind, however, that this was an expected development given the marginalization of Roma at the time when labor market started to expand; Roma would be the last to be included (or “invited”) to fill in newly created jobs. Moreover, with the existing incentives for non-participation on the labor market that were described in detail above, we could assume that a significant percentage of Roma simply refuse to be employed.

The second argument is based on the latest developments in the global distribution of labor, and more specifically on the export of labor-intensive productions in economies where the cost of labor is low (such as China, for example). This means that labor-intensive activities, especially those requiring more manual and low-qualified labor, would not develop and thrive in countries like Bulgaria. Although such a development seems logical and economically rational from a long-term perspective, the experience of the last few years shows that there has been a significant growth in precisely those sectors of the Bulgarian economy.

Finally, there is the argument that economic growth would be concentrated in some specific sectors and because of the global competition, these would be precisely the sectors, which due to technologies and workforce skills are the most productive and are expected to create the greatest number of new jobs. Therefore, most Roma would be excluded from employment in these sectors because of their poor education and lack of qualification and work skills. Such an approach, however, neglects two objective laws that are grounded in economic theory and are confirmed by the experience of developed industrial economies. First of all, higher productivity and hence, higher income in competitive sectors lead to increased demand for “basic” services (security, cleaning, etc.). Services are traditionally labor intensive and in many cases do not require high level of education and qualification. On the other hand, there is social mobility; thus, even though Roma are not a preferred workforce, they would be employed at such jobs because as the demand for labor in the high productivity sectors increases, some of the

people who are currently working at low-productivity jobs (with low wages) would shift to newly created job openings (with higher wages). This will free up positions for workers with no particular education or qualification.

**Table: Employment and income by sectors**

<b>Economic activities</b>	<b>People employed under labor contracts as of December 2005</b>	<b>People employed under labor contracts as of December 2006</b>	<b>Average monthly salary as of Q4 2005 in leva</b>	<b>Average monthly salary as of Q4 2006 in leva</b>
Total	2,233,988	2,247,232	326	367
Agriculture, hunting, forestry and fishing	61,499	60,636	243	264
Mining and quarrying	28,527	28,009	537	657
Manufacturing	622,465	614,818	299	335
Electricity, gas and water production and supply	56,609	54,106	585	678
Construction	138,446	144,017	278	311
Trade, repair of motor vehicles, personal and household goods	345,998	367,478	231	273
Hotels and restaurants	83,670	81,256	202	231
Transport, storage and communication	156,816	163,800	403	428
Financial intermediation	35,256	37,606	765	851
Real estate, renting and business services	134,479	143,299	306	354
Public administration; compulsory social security	133,571	133,911	480	554
Education	195,355	191,360	350	392
Health and social work	132,437	131,111	386	409
Other community, social and personal service	108,860	95,825	244	285

Source: NSI

### **Employment and income**

If labor market conditions and social system improve, and economic growth increases, a large percentage of unemployed Roma would be able to find a job. The added value that would be produced over the next ten years if Roma are integrated into the labor market ranges between 6 and 18 billion leva at current prices. This amounts would be even higher if Roma improved their education, accumulated experience and obtained qualification.

The approach applied by the World Bank is quite similar. A model published in “Bulgaria Country Economic Memorandum 2005”<sup>23</sup> shows that, if current employment rate is preserved, growth in Bulgaria could be around 3.5%, while if labor market participation is increased to 70% by 2015, annual growth could reach 5.2%. Thus, in 2025 the income per person would be **\$ 10,000 in the first case and \$ 14,000 in the second** (at 2000 prices). Therefore, speeding up growth requires higher employment

<sup>23</sup> World Bank, Bulgaria: The Road To Successful EU Integration - The Policy Agenda, Country Economic Memorandum, November 2005.

rates, or participation on the labor market of those who are at an economically active age, but currently do not work.

Roma at that age comprise (and will be comprising according to demographic predictions) almost 40% of the necessary increase in labor market participation, i.e. their inclusion in the labor market could contribute 40% of income growth over the next 20 years.

### 3. Access to quality education

#### *Roma education: current status*

We should begin our analysis of the problems with the integration of Roma in the education system with several basic assumptions:

- census data give a relatively accurate picture of the education status of adult Roma;
- based on different sources, we can conclude that a considerable share of Roma children do not enroll in school or drop out from the education system at an early stage;
- even those Roma children who do enroll and attend classes receive an education whose quality is lower than the average;
- the higher education system is quite open to Roma and it is the poor quality of secondary education that limits the access of Roma to the university.

2001 census data show that Roma are the least educated population group in the country. For example, 12.7% of all Roma between 25 and 64 years of age are illiterate, while only 7.2% of Roma have secondary or higher education (compared to 76.5% for the entire population).

**Table: Population by education level, 2001**

	Total	Share	Roma	Share
Higher	882,795	20.7%	443	0.3%
Secondary	2,063,011	48.4%	11,075	6.9%
Basic	1,051,338	24.7%	71,521	44.8%
Primary	182,111	4.3%	43,819	27.4%
Uncompleted primary	30,727	0.7%	12,445	7.8%
Illiterate	49,475	1.2%	20,341	12.7%
Total	4,259,457		159,644	

Source: NSI

A research conducted by the Agency for Social Analysis (ASA) shows that as of mid 2003<sup>24</sup> one in five Roma children between the age of 7 and 15 years (20%) does not attend school at all, while 8.7% attend only from time to time. Nearly 5% of the young Roma do not even know how to read and write. If we assume that Roma children between the age of 6 and 16 years are 91,000, then those who do not attend school are 18,200 (20%). If we add the enrolled Roma who do not attend classes regularly, the total number reaches 26,117 people.

Estimates made using a different methodology suggest that 32% of Roma children in school age tend to drop out, with 6% among the Turkish population and 8% among the Bulgarians.<sup>25</sup>

A 2005 UNDP study<sup>26</sup> shows that 83% of Roma children attend classes at the age of 7, but only 59% at the age of 15. It should be noted that school attendance was estimated based on answers provided by the parents and is probably overestimated. The same study indicates that only 10% of Roma children at the age of 12 have managed to complete 5<sup>th</sup> grade, while 63% of Roma above the age of 12 have spent 5 or more years in school. This suggests that a considerable number of students have repeated a grade or two, therefore, enrollment and attendance by themselves do not guarantee that the children would acquire adequate knowledge and skills.

According to the Strategy for Education Integration of Children and Pupils from Ethnic Minorities, the problems of Roma education include enrollment of a high number of children with no disability at all at schools for children with special education needs, difficult adaptation of Roma children in kindergarten and primary school, difficulties in coping with the curriculum due to inadequate knowledge of Bulgarian language. Poverty is among the main factors for irregular attendance and progressive increase in the number of school dropouts.

### ***Identification of reasons and impact measures***

If we examine the system of incentives that determine the behavior of the parties involved in the education process, we can identify two main groups of incentives: those targeted to the supply side of education and those targeted to the demand for education. The first group includes all the factors in the existing model of public education that influence the decisions of the education institutions (i.e. the schools and kindergartens). Our hypothesis is that some of them discourage the drive towards providing quality education to Roma children. The second group of incentives has to do with the motivation of Roma to benefit from the existing system of free secondary education and to enroll their children in school. This group can be further divided into two subgroups: factors, directly related to the model of education, and factors that arise from other

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<sup>24</sup> Dimova, L. and team, 2004, *Roma: New Challenges*, Sofia: ASA.

<sup>25</sup> Mihaylov, D., ASA. Quantitative Child Welfare Study, commissioned by UNDP, 200, <http://asa.dir.bg/resumes5.htm>

<sup>26</sup> Faces of Poverty, Faces of Hope: Vulnerability Profiles for Decade of Roma Inclusion Countries, UNDP 2005.

(general) problems of economic and social nature. We assume that a change in these incentives could change the motivation of Roma parents to involve their children in the education process.

In the following paragraphs we will analyze the main reasons behind the problems that Roma face with regard to the access to education, beginning with the factors that are not directly related to the education model and closing with some specific proposals for measures that could change the way secondary education is financed and managed.

## 1. Cultural and family environment

According to some authors, education has no particular value for Roma. In his analysis on Roma children and their family environment Iossif Nunev<sup>27</sup>, for example, claims that good education is not part of the value system of marginalized Roma. In traditional Roma families it is quite normal for children to attend school only until they acquire basic literacy skills (reading, writing and calculus), while any further education, especially given the current economic stagnation, is pointless according to the parents. In an analytical paper produced under the project “Studying attitudes towards education among Roma in Nova Zagora Municipality”, authors Magdalena Slavkova and Yelis Erolova conclude: “Graduating from a Bulgarian school could turn out to be a burden for Roma children because they have not been brought up according to the family traditions, while the social and economic environment and the fact that they are rejected from the members of the macro-society do not allow them to use the knowledge and skills they have acquired in school. Thus, such students suffer double marginalization: from the macro-society, on one hand, and from their own community, on the other... For many Roma groups it is much more important that children be brought up in their own family environment and respect the ethical and moral rules that are generally accepted in the community. Equally important is that children acquire the necessary skills related to the trade practiced in their group. Boys have to acquire those skills to be able to make a living for their families and be efficient as heads of those families. Girls, on the other hand, should also learn the necessary skills: how to make certain objects (for example, spindles in the Ligurari group), how to sell the products that have been manufactured (coffee pots and other copper utensils in the Kalaydjii group), and last but not least, how to be good mothers and housewives. Young boys and girls should marry at the appropriate age that has been established by tradition in their own community, rather than by the norms of the macro-society.”

According to a UNDP analysis<sup>28</sup>, another important reason for school dropouts among Roma are early marriages and births. Roma in Bulgaria get married between the age of 14 and 20 years, while the average age at which people in Bulgaria marry is 28.4 years for the men and 25.2 years for the women. Early marriage not only for Roma, but for any other ethnicity in Bulgaria usually means that the newlyweds, male or female, would discontinue their secondary education.

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<sup>27</sup> Nunev, I. 1998, *Roma Children and Their Family Environment*, Sofia: IMIR.

<sup>28</sup> “Avoiding the Dependency Trap: The Roma in Central and Eastern Europe” (UNDP 2003).

As a result, a significant share of Roma children to not attend preschool education, are not enrolled in school and even when they are enrolled, they do not make much effort to study the subjects that they are being taught.

Two factors could bring about a change in this situation: one of them has to do with the motivation of current students, while the other would prevent potential dropout in the next generation of Roma:

- The integration of Roma on the labor market would demonstrate the economic benefit of education, i.e. Roma who have completed a certain level of education or have acquired at least basic literacy skills would have a chance to get a better paid job. This will convince parents that it is worthwhile to send their children to school.

- The integration of Roma in economic life, as well as the reforms in the social welfare system that were described in the present report, would reduce incentives for childbirth, and especially for early births, which are now used as a mechanism for increasing the income of the household. This could bring about a gradual change in the role of the mother in Roma families, and hence, in the upbringing of children and the attitude towards education.

## 2. Poverty

According to MES data, there is a strong link between poverty in the family and school dropout. There are two basic reasons for this: education involves expenses (transportation, textbooks, school materials), on one hand, and deprives the household from income (from child labor), on the other. Currently there are at least two programs (provision of free textbooks for primary school and school-feeding under the so-called program “A Cup of Hot Milk”), which should limit the problems associated with the first group of factors that result in lack of motivation to receive education.

Another effect of poverty is the high number of Roma children who are enrolled in schools for students with special educational needs (without actually having a disability). The motivation for this lies in the additional sustenance services, which these schools provide. According to data, quoted in a UNDP research paper<sup>29</sup>, approximately 1/3 of the students in such schools are Roma. Another important reason for this phenomenon, however, is the poor knowledge of Bulgarian language, as a result of which many Roma students are unable to cope with the secondary school curriculum. That is why this problem would not be solved only by addressing poverty, but also by adopting measures to improve basic literacy skills and knowledge of Bulgarian language among Roma at primary school age.

On the other hand, children who live in a closed community can learn Bulgarian only if they attend kindergartens, which should be considered not as institutions that provide daycare services for children, but rather as institutions that build knowledge and skills.

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<sup>29</sup> “Avoiding the Dependency Trap: The Roma in Central and Eastern Europe” (UNDP 2003).

We will discuss the measures for addressing the problem of poverty further on in the present report. Here, we would point out that strengthening the motivation of Roma to seek education would depend on the success of the measures to facilitate the integration of Roma on the labor market and hence, improve their income. Further measures could be adopted to reduce the “burden” of the costs, associated with school attendance, but only as part of supplementary programs designed to solve the specific short-term financial problems of some Roma households.

### 3. Social assistance and school attendance

Currently, children are the source of two types of income for Roma households: from social payments and from child labor. This means that parents have an interest in having more children, but not in sending them to school, because this would not generate income in the short term. This situation could be changed by linking the receipt of social assistance to school attendance and student performance (which justifies some of the measures we propose in the section discussing reforms in the model of secondary education). On the other hand, if parents manage to integrate on the labor market and generate income (which is discussed elsewhere in the analysis), this would reduce the need for child labor as an additional source of income.

### 4. Financing of education

Budget 2007 introduced a new model for financing public education. The model is based on a unified cost standard, which combines staff-related and maintenance-related costs per year per student/child in schools, kindergartens and supporting units. Until the end of 2006, public education was financed based on two standards, associated with staffing levels and maintenance costs.

The current model generates several main problems:

- Budget allocations for now go to municipalities, which then redistribute the resources among the individual schools. At the same time, there is an ongoing process of shifting towards delegated budgets, whereby financing goes directly to the schools, although implementation is still at an experimental stage. The full introduction of this model, combined with the implementation of the unified cost standard, would result in a voucher model of financing in which money follows students, while schools are providers of services that seek to attract more “clients”.<sup>30</sup>
- Allocations based on the number of students register only enrolment, but not actual attendance, student performance or quality of education.
- Currently, financing cannot be linked to the results of education because no external assessment system exists.

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<sup>30</sup> External resource allocation, external assessment and school autonomy are essential factors for improving the quality of education. See for example *Ludger Woessmann and Thomas Fuchs, What Accounts for International Differences in Student Performance?, CESIFO working paper No. 1235 (American Economic Association Annual Meeting 2005)*.

- Even the current, relatively “loose” links between financing and the number of students are not respected and additional subsidies through different compensations from the state budget creates a typical situation of *moral risk* among those employed in education.

The combined effect of these factors is that school directors and teachers have no substantial incentives to increase school attendance, including of Roma children. The mere enrollment of students is a sufficient condition for receiving budget subsidies and in some cases the government tolerates even small classes, thus making even the formal enrollment of Roma pointless. The fact that financing is not linked to teachers’ performance (i.e. the number of students who have actually graduated and not merely enrolled) does not motivate teachers to invest more effort into educating Roma children, even less so when students have some difficulties with the Bulgarian language.

The problems described above do not affect only the inclusion of ethnic minority children in the education system. They affect the overall motivation of education service providers to offer more and better knowledge and skills with as less resources as possible. In this sense, the reform ideas proposed here should not be seen only as a policy tool targeted to ethnic minorities.

In order for the current unified cost standard model and the (potential) introduction of delegated budgets to function efficiently, the State should abolish the practice of allocating additional subsidies for existing fixed costs – to schools with small enrollment, for example, or with larger than necessary buildings. Thus students, including Roma, would become “clients” who bring direct financial benefit for the school, while directors and teachers would compete for enrollments.

In order to encourage the provision of quality education services and not merely attendance (or even enrollment), financing should be linked to the results achieved. The voucher (the unified cost standard) could be divided in two parts: for attendance and for passing from one grade to the next. At the initial stage the passing from one grade to the next could be used a criterion. Evidence shows that, especially among Roma, there is a significant difference in the number of children who attend school and the number of those who continue over to the next grade without repeating the year. The problem with completing basic or secondary education is even more serious: only a small percentage of Roma who have made it to the next grade manage to complete the level of education. Thus, schools would be motivated not only to improve the attendance of Roma children, but to make sure that they actually acquire the necessary knowledge and skills.

On the other hand, in the absence of an objective internal and external assessment system, the mere fact of completing a certain grade does not guarantee quality of education. If teachers alone decide subjectively which children would pass on to the next grade and with what scores, education standards could be neglected to make sure that there are no repeating or poor students, at least on record. The introduction of an objective system for assessing student performance, combined with reforms in the model of financing, as described above, would motivate schools to provide quality education to both Roma and non-Roma.

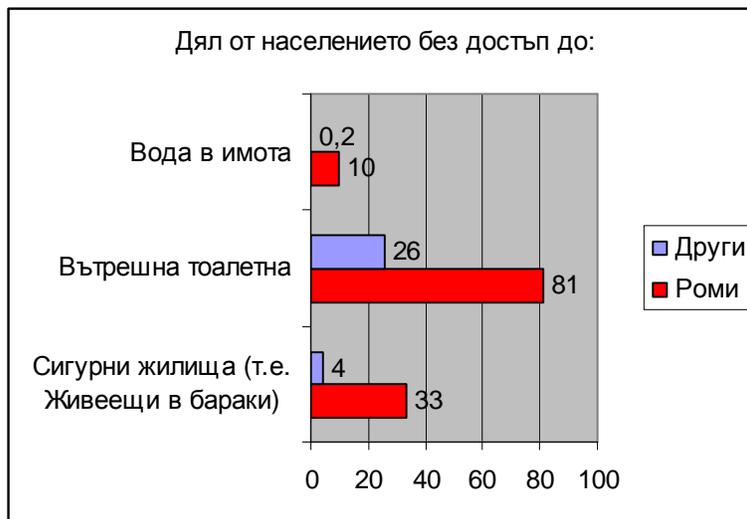
Personal incentives for individual teachers are also important. Targeting financial resources to schools would create incentives for school administrations to enroll more children and provide better education. School directors, however, cannot achieve this goal, if they do not have a mechanism for motivating individual teachers. In other words, a system for differentiated teacher salaries should be introduced, which should be based on student results measured objectively through an external assessment system.<sup>31</sup>

#### 4. Housing, living conditions and segregation

Two problems, related to housing, should be addressed in order to facilitate Roma integration: the considerably worse living conditions of Roma compared to the average for the country, on one hand, and the segregation of Roma in separate neighborhoods, on the other. The first problem has to do mainly with poverty, while the second stems from either forced or voluntary segregation.

##### *Dimensions of the problem*

According to a 2005 UNDP analysis<sup>32</sup>, the living conditions of Roma in Bulgaria are much worse than those of the “majority” (i.e. the non-Roma). Data have been collected through a sociological research conducted by Gallup International, with the main indicator being illustrated in the graphs below:



<sup>31</sup> We should mention here the problem with teacher absences in some “Roma” schools. A solution that was successfully experimented in India is to make teacher salaries contingent upon regular reporting for work (which is documented by a camera with an inbuilt timer, registering the date and the time). After the adoption of this system in India, teachers’ absences were reduced by a half. For more details see: Esther Duflo, Rema Hanna (2005), *Monitoring Works: Getting Teachers to Come to School*, National Bureau of Economic Research, NBER Working Paper No. 11880.

<sup>32</sup> Faces of Poverty, Faces of Hope: Vulnerability Profiles for Decade of Roma Inclusion Countries, UNDP 2005.

Share of the population without access to:

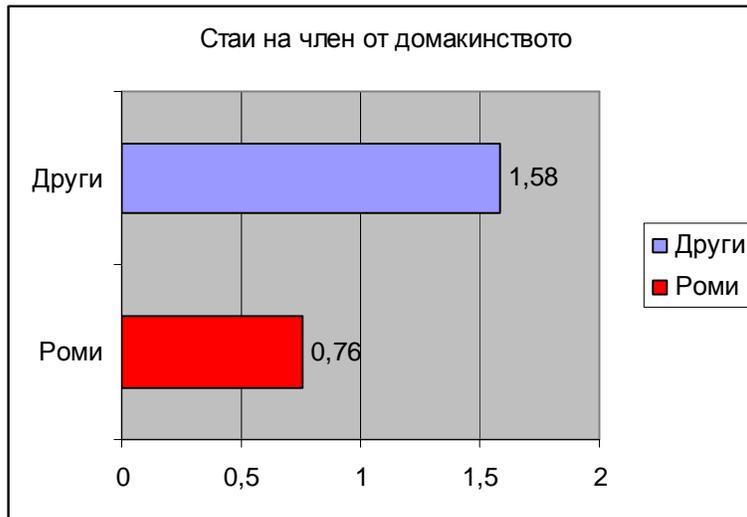
Water in the property

Indoor WC

Safe housing (i.e. people living in huts)

Non-Roma

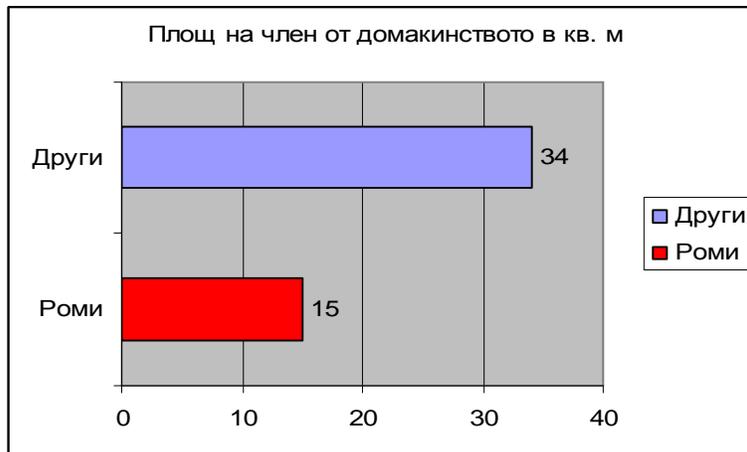
Roma



Rooms per household member

Non-Roma

Roma



Living area in sq.m. per household member

Non-Roma

Roma

Source: *Faces of Poverty, Faces of Hope: Vulnerability Profiles for Decade of Roma Inclusion Countries, UNDP 2005*

In short, Roma live in close quarters, in makeshift constructions (huts) and with no access to basic sanitary facilities. We should note however that the most serious problems are associated with the lack of proper sanitary facilities, rather than with the living area. The lack of sanitary facilities, on the other hand, has to do with the fact that Roma live in

premises that have been built illegally. Moreover, the majority of them live in segregated neighborhoods (ghettos). According to government estimates approximately 25% of Roma houses in these ghettos are illegal.

### ***Effects of poor living conditions***

#### Direct effects

- Poor health status and high mortality. According to NSI data for 2003, child mortality in the country is 9.9/1000 among Bulgarians; 17/1000 among Turks and 28/1000 among Roma. The share of elderly people (above the age of 60) in the Roma community is four times lower than among Bulgarians.

#### Indirect effects

- Poorer education. The segregation of Roma in separate neighborhoods leads to the existence of de facto segregated Roma schools. The average quality of education in these schools is lower than that in other educational institutions because of factors related to the specifics of Roma children, but also because good teachers tend to avoid such schools.
- Fewer employment opportunities. Discrimination on behalf of employers could be based even on the permanent address of the candidate and in this sense, people who live in certain neighborhoods are a priori rejected as a group.
- Lack of investment. Segregated neighborhoods drive investors back for either racist concerns or fear of higher criminality or just an objective recognition of the high concentration of poverty. Thus, the opportunities for economic integration of those who live in the “ghettos” become even more limited.

### ***Government approach to solving this problem***

In March 2006 the government approved a National Program for Improving the Living Conditions of Roma in Bulgaria until 2015. The Program is an integral part of the National Housing Strategy and includes the following main measures:

- investing in the infrastructure of Roma neighborhoods;
- identifying new areas to which some of the Roma could be relocated;
- building new houses with public funds, which would be then rented out to Roma;
- changing territorial structure and organization.

The Program provides for building 30,065 new houses over a ten-year period and improving the living conditions of 412,500 people (approximately 85,900 households), who live in 100 neighborhoods in 88 towns. The cost for the next 10 years will amount to 1.26 billion leva and will be financed by the Bulgarian government, by EU funds and by municipal budgets (at a ratio of 40/43/17%). The main expenses will include changes in

territorial structure and organization (111 million leva), investment in infrastructure (422 million leva) and construction of new houses (521 million leva).

The program budget of the Ministry of Regional Development and Public Works for 2007 envisages the following activities under the program “Improving the living conditions of Roma”:

- Regulating the territories of some of the existing neighborhoods with predominantly Roma population;
- Elaborating detailed territorial structure and organization plans to identify new plots for residential buildings;
- Improving part of the existing technical infrastructure and constructing new infrastructure;
- Improving the quality of some of the dwellings in existing neighborhoods with predominantly Roma population;
- Constructing social housing and developing social infrastructure.

The program envisages the construction of 204 residential units and the accommodation of 306 households. Capital investment under the program is estimated at approximately 4.3 million leva.

Some of the measures that involve building new houses and direct financing of existing housing facilities have some deficiencies with regard to objective economic laws, which would significantly limit the desired effect. More specifically, we should note the following:

1. The provision of subsidized housing does not solve long-term problems. On one hand, in the absence of economic integration and chances for prosperity, the beneficiaries cannot afford to use, preserve and maintain housing facilities even if the initial conditions for obtaining them are favorable. This has been demonstrated, for example, by the 30-year experience of the US government in providing “accessible housing”<sup>33</sup>. The main negative consequences include the creation of a dependence cycle and low incentives to work – subsidized housing is a form of social assistance and has similar effect on the motivation for labor market participation. On the other hand, without parallel reforms that would encourage Roma employment, the members of the Roma community would have no sustainable opportunities for income and prosperity and would be unable to maintain their newly acquired houses and to pay for communal services, as a result of which new housing facilities would soon become as shabby and dilapidated as most Roma neighborhoods are at the moment.
2. The centralized planned construction of housing facilities for Roma creates a risk of total segregation and creation of exclusively Roma neighborhoods. In this sense the

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<sup>33</sup> Howard Husock, *America’s Trillion-Dollar Housing Mistake—The Failure of American Housing Policy*, Ivan R. Dee, Chicago 2003.

successful implementation of the Program would actually limit the chances for Roma integration.

### *Alternative solutions*

In order to identify alternative solutions, we should first find out why the living conditions of Roma are poor. When this is established, measures should be targeted to the factors that have led to the current situation.

Several main factors for the poor living conditions of Roma can be identified:

- Low income. This is the most important factor, which has to do with the link between disposable income and the possibility to afford housing expenses.
- Segregation of Roma neighborhoods. Poor infrastructure is a typical feature of those neighborhoods.
- High percentage of housing facilities that do not meet regulatory standards. According to the National Program, approximately 25% of Roma houses are illegal. In addition, a percentage of Roma have settled on municipal land without permission.

From a methodological point of view, we should not be concerned with the existing facilities in which Roma live, but rather with the future chances of Roma to find better housing. Therefore, our approach is targeted to the people, rather than the housing facilities (which are neutral to their inhabitants or owners).

Starting with the desegregation of Roma neighborhoods, we should note that it could not happen as a direct result of a targeted policy, but rather as a process that follows a number of other reforms. Roma integration can be achieved in two ways: by relocating Roma to neighborhoods in which the majority of inhabitants are non-Roma, and by encouraging non-Roma to move to areas with predominantly Roma population. The first requires that the income of an increasing number of Roma becomes higher (which is associated with measures to strengthen the employment and the economic integration of Roma). But even in this case, the process would evolve gradually, starting with the relocation of individual families. The second requires improved living conditions in the Roma neighborhoods (infrastructure, etc.), as well as greater attractiveness of those neighborhoods from an economic point of view. Ultimately, both processes would depend on the success of the measures proposed for influencing the other two main factors.

Owning and maintaining a house requires a certain level of disposable income. That is why the problems with the housing of Roma could be solved only if the income of Roma households is increased. This, in turn, depends on the economic integration of Roma (necessary reforms in this area are proposed in the section discussing social assistance and labor market policies). On the other hand, a long-term investment such as investment in real estate property often requires considerable financial resources, which should either be accumulated in advance or obtained in credit. Financial institutions, however, seldom credit individuals with no permanent employment and no available real estate property.

This brings us to the last factor that has to do with land ownership and the legality of buildings. This problem exists not only for Roma and not only for Bulgaria. Hernando de Soto<sup>34</sup>, for example, explains poverty in most “Third World” countries with the lack of well-defined real estate property ownership rights, which limits predictability and impedes the financing of long-term activities. Currently, lack of legal security generates in Roma a highly shortsighted behavior towards housing facilities, which face the risk of being demolished. This makes us believe that without public funding and even without substantial increase in the income of Roma some Roma households would find a way to improve their homes with their own financial resources, if there is legal security and predictability.

That is why, in addition to the general measures targeted to improving the economic integration of Roma, we would note the following essential steps, which could directly improve the living conditions of Roma:

- Transferring ownership of land to Roma who have actually settled on it: in effect, this would be a land provision program, similar to those implemented for agricultural land. Such program, of course, cannot be ethnicity-based and should cover all households that have settled on municipal or public land. Such a program can be organized in two ways: by covering all costs with public funds or by requiring beneficiaries to pay the partial (or full) price of the land. When the lots are municipal property, it is logical that the government budget should compensate municipalities by covering the difference between the selling price and the market value of the properties. Given that approximately 30.000 households would be potential beneficiaries of such a program and having in mind the market price of lots in such locations, we can estimate the amount of funding necessary, as follows:

**Table: Cost of land provision in leva**

	At land price of 5 leva per sq. m.	At land price of 15 leva per sq. m.
With 100% public funding	37,500,000	112,500,000
With 50% public funding	18,750,000	56,250,000

\* For 30.000 lots of approximately 250 sq. m. each

- Activities related to ensuring compliance with territorial structure regulations: these include drafting new or updating existing cadastral maps and registers, drafting new or updating existing detailed structural maps for the entire territory of the neighborhoods with all required components. Measures should be also taken to adopt legislative amendments that would give municipalities more authority in planning and organizing residential areas. Some of these measures have already been planned and valued in the National Program. However, it should be noted that since the solution we propose does not involve subsidized

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<sup>34</sup> Hernando de Soto, *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*, Basic Books, 2000

construction of new housing facilities, some of the expenses allocated for this purpose in the National Program would be avoided. According to our estimates, the activities we propose could be covered by 1/3 of the 111 million leva planned, or with approximately 37 million leva.

- The measures to improve infrastructure, which have been provided for in the National Program, are also an important condition for solving housing problems. However, we believe that if measures, related to property and legalization of housing facilities are implemented successfully, and the employment and income of Roma is improved, most of this investment would be made by the companies that provide communal services. Such are for example the electricity and water supply companies for which Roma would turn into new solvent customers. These companies have a direct interest in infrastructure investment at the very least because this would reduce losses and thefts, which currently take considerable dimensions. In this sense, we believe that less public funding would be necessary, approximately ½ of what has been planned in the National Program, or 211 million leva, which would cover chiefly investment in roads, sewerage and improvement of the so-called “social infrastructure”.

### ***Benefits of the proposed solution for housing***

The direct benefit would be the improved living conditions, which in turn affect health and quality of life. Additional effects can be grouped in several main areas:

- A percentage of Roma would get property and permanent addresses, which would significantly improve their employment prospects, as well as their access to financing.
- The neighborhoods with predominantly Roma population would provide better living conditions and would begin attracting non-Roma. This, in turn, could improve the quality of public services, such as police, education, etc.
- Legal security would encourage new investment in Roma neighborhoods. This, in turn, would create new employment opportunities and would increase the value of the real estate property owned by Roma.
- Roma neighborhoods would gradually become desegregated through a long process involving relocation of Roma to other residential areas, as well as settlement of non-Roma in traditionally Roma neighborhoods.
- There would be some positive “side effects” for non-Roma, as well. These include, for example, increased price of land and investment in the areas located close to Roma neighborhoods; fewer losses for the providers of communal services (electricity, heating, water), which are now being covered by all customers.

## 5. Assessment of the overall economic effect of proposed reforms

There are significant differences among the individual Roma integration programs and reform measures. Some of them produce an impact very soon, while with others there is a lag of several years. In education, in particular, the impact in many cases is delayed by many years. For this reason, we will analyze the impact in two groups: the first one includes the cost and benefit of improved education 25 years from now, while the second includes the cost and benefit of all other measures 10 years from now.

### *- Cost and benefit of improved educational level*

If the time spent in school is increased by 3 to 5 years, in 25 years the GDP would be between 0.8% and 1.9% higher than in the baseline scenario. The accumulated effect of higher growth after the eighth year (i.e. 18 years) would range between 10% and 27% of GDP at the start of reforms, or between 4.5 and 12 billion leva (at current prices). The cost of fulfilling these scenarios would be associated mainly with higher transfers to the schools. We estimate the additional expenses for the next 25 years at 420–660 million leva if the time spent in school is increased by 3 years and 700–1,100 million leva if the time spent in school is increased by 5 years.

### *Cost and benefit of improved educational level*

Million leva	Minimum	Average	Maximum
Benefit	4,500	8,250	12,000
Cost	420	760	1,100

\* current value extrapolated for a 25-year period

### *- Cost and benefit of economic and social integration*

Roma integration entails many reforms and the elimination of many obstacles, which currently prevent the successful inclusion of Roma in economic and social life. Most of these reforms do not require substantial financial resources and are not expensive for society. The overall cost of Roma integration ranges between 0.8 and 1.1 billion leva for a 10-year period.

The positive effects are enormous. The benefits, which society would gain as a result of full Roma integration in terms of economized social assistance, reduced loss of efficiency, increased labor, higher income, lower mortality and criminality rate, range between 13 and 31 billion leva (current value extrapolated for a 10-year period). The positive effects outrun the costs 20 to 30 times.

*Benefits of economic and social integration (excluding education)*

Million leva	Minimum	Average	Maximum
Economized social assistance	2,000	3,150	4,300
Reduced loss of efficiency	667	1,050	1,433
Higher employment and income	5,714	11,815	17,915
Lower mortality	4,041	5,164	6,286
Lower criminality	500	740	980
<b>Total</b>	<b>12,922</b>	<b>21,918</b>	<b>30,914</b>

\* current value extrapolated for a 25-year period

*Costs of integration (current value extrapolated for a 10-year period)*

Million leva	Minimum	Average	Maximum
Re-training and education	500	650	800
Housing and infrastructure	266	313	360
<b>Total</b>	<b>766</b>	<b>963</b>	<b>1160</b>

\* current value extrapolated for a 25-year period

## **ANNEXES**

### **A. Annex 1: Education and economic effects**

Education cannot be examined separately from the knowledge and the economic status of the individual. Better educated societies enjoy higher long-term growth and prosperity. In modern economic theory “human capital” – the knowledge and skills of people in an economy – is seen as one of the factor for economic growth.

The situation in Bulgaria confirms this generalized statement. Approximately 60% of the unemployed are people with primary or lower education; the situation among those who do not seek work or have dropped out of the workforce is the same. The majority of employers claim that the lack of qualified workforce is a major challenge for their businesses. A number of empirical research studies show that there is strong interdependence between education and poverty. The majority of workers with low level of education, especially in smaller towns, get only the minimum salary. Different measures and reforms could increase the participation of Roma in the labor market, but it is better education that would lead to improved productivity, and hence, to higher incomes.

Summarizing the findings of different empirical research studies, we will try to develop a model for assessing the effects, which the improved education status of Roma would have on Bulgarian economy.

### **Education and productivity: review of international surveys**

Macroeconomists traditionally include human capital among the factors for economic growth. After the 1980s economic theory has been exclusively concerned with the sources of sustainable growth, thus giving rise to the “endogenous growth” paradigm. In its essence, it takes for granted that technological progress, seen as a targeted research and development process, leads in the long run to better products and production methods (see Romer, 1990). This paradigm explains the apparent paradox that despite of the decreasing marginal return of traditional production factors, developed countries still enjoy sustainable economic growth.

Many empirical surveys have been conducted over the recent years, comparing growth rates and key growth factors across different countries. We should mention a survey conducted by Barro (1998) who studies 100 countries for the period 1960-1990, examining the link between economic growth and factors such as government spending, rule of law, democratic institutions, inflation, education, etc. The education variable used is the number of year, spent in the education system. Barro establishes that there is a strong link between this variable and economic growth: each additional year, spent in the education system, results in a 0.7% higher annual growth in GDP for a given country. The survey also shows that there is a strong connection between secondary and higher education, and growth – the explanation provided by the author is that this enables the transfer and use of latest technologies in local economy. In the same time, however, it is clear that primary education is a necessary condition for moving on to higher levels.

The quantity of education is not as important as its quality, as other authors including Barro & Lee (1997), Hanushek & Kimko (2000), Sweetman (2002) have established in their studies. They are examining the link between quality, measured through standardized tests, and economic growth. All surveys repeatedly establish that there is a much stronger link between growth and standardized test results, than between growth and the number of years, spent in school.

### **Education and individual income**

Knowledge and skills benefit above all those who possess them. This makes it much easier to identify and explain the connection between education and personal chances for prosperity. Below we summarize the conclusions of several international surveys that have tried to quantify this connection.

- Green & Riddell (2000) claim that every additional year spent in school translates into 8.3% higher salary in the Canadian economy. The annual income of Canadians in the lower functional literacy group is approximately 19,000 Canadian dollars, in the next group it is approximately 25,000 Canadian dollars, while in the two highest groups it is approximately 35,000 Canadian dollars. This means that if a person with low literacy level moves to a higher group, his or her income will increase by 31%.
- Research data summarized in Harmon, Oosterbeek and Walker (2003) show that (globally) higher average number of years, spent in school, leads to an increase in salaries ranging between 6% and 8%.
- The International Adult Literacy Survey (IALS) conducted with the support of OECD in the period 1994-1998 divided respondents into 5 groups (quintiles) according to the skills they have demonstrated. When results were correlated with income, it became clear that the difference in the income of people in the lowest group (the least educated 20% of the population) and that of people in the next higher group ranges between 5% (Czech Republic, Germany, Hungary, Denmark, and others) and 30% (USA). In most countries such as Great Britain (10%), Italy (15%), Ireland (15%), Netherlands (18%) and Sweden (19%) the difference in income ranges between 10 and 20%. This means that better education that would ensure a shift from the last to the next quintile could lead to an increase in income ranging between 10 and 20% (for more details see: Denny, Harmon & O'Sullivan, 2003).
- Using data collected by the International Social Survey Program (ISSP) in 1995, Harmon, Oosterbeek and Walker (2003) examine the correlation between time spent in school and income. Results in individual countries differ, with one additional year in education resulting in 3% to 13% higher income for men and 3% to 16% - for women. The countries with the lowest "return" of education are the Netherlands, Germany, Austria and Canada, while those with highest returns (above 7%) include Poland, USA, Great Britain and Ireland. For Bulgaria, the authors identify a correlation of 5%.
- According to Sweetman (2002) the effect of each additional year in education ranges between 7% and 15% in the entire productive life of an individual. He summarizes 2000 data for Canada, according to which the average hourly wage is around 14

Canadian dollars for men with basic education, 17 to 20 Canadian dollars for high school graduates and 26 to 35 Canadian dollars for men with Bachelor's or Master's degree. For women these figures are 10 Canadian dollars, 14 Canadian dollars and 23-26 Canadian dollars, respectively. In the same time the employment rate of people with basic or lower education is only 40% among women and 60% among men; for those who have attended but have not graduated from high school these figures are around 60% and 75%, respectively; for high school graduates – around 73% and 86%, and for university graduates – around 85% and 92%.

### **Model for Bulgaria: The Case of Roma**

In this section we do not discuss the necessary reforms and measures that would increase the incentives of Roma to pursue education and the opportunities they have to study. Our goal is to demonstrate the possible long-term effects which the improved education status of Roma would have on Bulgarian economy, following some patterns established in international surveys. The terms “reforms” and “measures” denote actions that would facilitate the integration of Roma in the education system, with the ultimate effect being used as an assumption for the model.

#### **1. Increasing the number of years spent in school**

We examine a scenario in which as a result of education policies, Roma children spend an average of 3 years more in school. This equals to an increased education status by approximately one level: thus, we assume that those who do not attend school at all, would complete at least primary education; those who drop out after primary education would make it at least to the basic level, etc. We take for granted that the measures will affect the children who are 8 years old at the start of the reforms, as well as those who will be born in the future. For the time being, we assume that the measures would have no effect on older children. The model is based on the following assumptions:

- We use UNDP data<sup>35</sup> on school attendance and the number of Roma children;
- Based on average school attendance calculated according to UNDP data, we estimate that currently the average time spent in school is around 6 years;
- We assume that an average of 8,000 children would be born per year, approximately 5,600 Roma would go beyond working age, and there will be no emigration of children who would enter working age. This means that after the eighth year, 16-year old Roma who enter the labor market would have spent three years more in school;
- We estimate that the number of Roma at working age is approximately 225,000 people and would reach 265,000 people in 25 years, based on the above assumptions. After 15 years, 23% of Roma at working age would be “better educated”, while after 25 years their share would be 51%;

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<sup>35</sup> Faces of Poverty, Faces of Hope: Vulnerability Profiles for Decade of Roma Inclusion Countries, UNDP 2005.

- The baseline scenario is that the current situation would be preserved, i.e. Roma would enter working age, having spent approximately 6 years in school.

Based on these assumptions, we can estimate the expected increase in income (or rather the potential labor market productivity) of working age Roma in the future, applying the results of the surveys quoted above to the Bulgarian conditions.

**Increase in productivity (potential income from labor) upon extension of the average time spent in school by 3 years**

	after 15 years	after 20 years	after 25 years
Number of years in school (baseline scenario)	6.0	6.0	6.0
Average number of years in school for Roma at working age	6.7	7.2	7.6
Difference	0.7	1.1	1.5
Difference in income at a 5% increase for each additional year in school (estimate for Bulgaria, see Harmon, Oosterbeek and Walker (2003))	3.5%	5.7%	7.7%
Difference in income at a 8.3% increase for each additional year in school (Green & Riddel (2000))	5.8%	9.4%	12.8%
Difference in income at a 15% increase for each additional year in school (upper limit in Sweetman, 2002)	10.4%	17.0%	23.1%

**2. Literacy and income**

The lowest (first) functional literacy group according to the OECD survey comprises people, which have received less than 225 points (out of 500). This means that a person should acquire knowledge and skills for at least 226 points to move one level upwards, i.e. to improve his or her functional literacy so that he or she might get into the second group. It seems logical to conclude that more time spent in school would result in better functional literacy. In the same time, however, education systems are not equally efficient, which makes it difficult to assess to what extent school attendance contributes to improving functional literacy. The average results of people with completed basic education and at least one year in high school vary between 208 and 300 point, with the lowest scores, between 208 and 267 points, being registered in countries like Chile, Poland, Hungary, Slovenia and Portugal. High school graduates achieve average results that range between 250 points (Slovenia) and above 300 points (Sweden). This means that even completed basic education does not guarantee that a person would move from the lowest to the next functional literacy group. However, if we assume that suggested reforms for improving the quality of secondary education would actually produce the desired effect in the long run, we should anticipate that the results for Bulgaria would be comparable to those for the countries in Western Europe where a person who has completed eight years of schooling would be expected to get at least into the second

lowest functional literacy group. We can estimate the potential effects of improved functional literacy among Roma, taking into consideration several assumptions:

- As a baseline scenario, we use NSI data on the education status of Roma, assuming that it would remain unchanged in the long run;
- The scenario under which Roma are integrated in the education system assumes that all children who are 8 years old or younger at the start of the reforms would complete basic education, while the percentage of those who have completed higher levels would remain unchanged;
- At least 60% of those who have completed basic education and at least 80% of high school graduates would fall into the second functional literacy group. Currently we assume that 30% of those who have completed basic education and 80% of high school graduates would fall into the second group, while all who have lower than basic education would be in the first group. Thus, under the baseline scenario 93% of Roma would fall into the lowest functional literacy group, while under the integration scenario they would be around 39%.
- We assume that an average of 8,000 children would be born per year, approximately 5,600 Roma would go beyond working age, and there will be no emigration of children who would enter working age. Thus, after the eighth year, 39% of the 16-year old Roma who enter the labor market would fall into the first functional literacy group, while under the baseline scenario they would be 93%;

Based on these assumptions, we can estimate the expected increase in income (or rather the potential labor market productivity) of working age Roma in the future, applying the results of the surveys quoted above to the Bulgarian conditions.

	after 15 years	after 20 years	after 25 years
Percentage of Roma workforce with second or higher functional literacy level under the baseline scenario	6.8%	6.8%	6.8%
Percentage of Roma workforce with second or higher functional literacy level under the integration scenario	14.2%	23.3%	31.5%
Difference in the percentage of Roma second or higher functional literacy level	7.4%	16.4%	24.6%
Average increase in income (productivity) of working age Roma population based on data for other European countries (an average increase of 15% estimated by the authors)	1.1%	2.5%	3.7%
Average increase in income (productivity) of working age Roma population based on data for Canada (an increase of 31% upon transition from the first to the second functional literacy level, see Green & Riddel, 2000)	2.3%	5.1%	7.6%

### 3. Education level and income

Currently, approximately 7% of Roma between the age of 25 and 64 years have completed secondary school, while 45% have only basic education. We can assume that presently the education system reproduces these ratios (for lack of concrete data). If reforms in education actually produce the desired effect, we could consider a scenario in which at least those who now manage to complete only basic education would graduate from secondary school. This scenario is comparable to the assumption that Roma would spend at least three years more in school, but it is less feasible because it involves completing an education level. We make the following assumptions:

- As a baseline scenario we assume that the current share of Roma who have completed secondary education (7%) would remain unchanged;
- The scenario under which Roma are integrated in the education system assumes that all children 8 years old or younger at the start of the reforms who would otherwise complete only basic education, would complete secondary education, while the percentage of those who have completed higher levels would remain unchanged. This means that after the tenth year 52% of 18-year old Roma (rather than 7%) would have graduated from high school.
- We use Sweetman's estimates (2002) for the labor market in Canada, according to which high school graduates receive 36% higher wages on the average than those who have completed only basic education (32% for men and 40% for women).

	after 15 years	after 20 years	after 25 years
Percentage of Roma workforce with secondary education under the baseline scenario	7%	7%	7%
Percentage of Roma workforce with secondary education under the integration scenario	15.2%	21.5%	27.2%
Difference in the percentage of Roma with secondary education	8.2%	14.5%	20.2%
Average increase in income (productivity) of working age Roma population based on data for Canada (36% increase upon completion of secondary education, see Sweetman, 2002)	3.0%	5.2%	7.3%

### 4. Macro effects

If we use the correlation between the years spent in school and the economic growth rate, which has been established by Barro (1998), we could estimate the potential increase in the country's GDP under different scenarios for the education status of Roma. We examine several options with the following assumptions:

- Roma at working age are 7% or 10% of all working age people in the country;

- Changes affect children who are 8 years old at the start of the reforms; after the eighth year, 16-year old Roma who enter the labor market would have spent three (or five under the second scenario) years more in school (if quicker results are achieved, i.e. if measures affect children who are older than 8 years today, the impact on growth would be higher);
- Each additional year spent in school results in a 0.7% higher economic growth;
- Under the baseline scenario GDP increases by 3.5% per year.

With these assumptions and estimates on the size of the Roma community, in 25 years the GDP would be between 0.8% and 1.9% higher than in the baseline scenario. The accumulated effect of higher growth after the eighth year (i.e. 18 years) would range between 10% and 27% of GDP at the start of reforms, or between 4.5 and 12 billion leva at 2006 prices (i.e. prices comparable to the GDP in 2006).

The cost of fulfilling these scenarios would be associated mainly with higher transfers to the schools. Based on the unified cost standard, each student in secondary education costs approximately 900 leva (the estimate is based on an average of the different standards for 2007 to facilitate the calculation of long-term effects). If the time spent by Roma children in school is increased by 3 or 5 years, the total number of students, and hence, the budget allocation for them would also increase. Taking into consideration the different estimates for the total number of Roma population, we estimate the additional expenses for the next 25 years at 420–660 million leva (based on 2007 prices/cost standard, disregarding inflation) if the time spent in school is increased by 3 years and at 700–1,100 million leva if the time spent in school is increased by 5 years. The estimate takes for granted that the cost of secondary education would remain relatively unchanged, i.e. it would increase at the same pace as the GDP.

This difference measures only the direct effect of better education on productivity with the assumption that Roma employment rate is the same in all scenarios. It should be noted, however, that because of the extremely low level of functional literacy among Roma today, some of them could hardly integrate into the labor market. In this sense, in the first years after the reforms have begun to take effect, education would have a much stronger impact on employment prospects and only later on it would impact individual productivity, which is measured here with the higher growth in GDP.

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## **B. Annex 2: Crime, ghettos and economic consequences**

### **I. International experience**

#### **1. Poverty and crime – Ireland**

*In 1998, following a government decision to establish a National Crime Forum in Ireland, the Combat Poverty Agency published a report, which examines the link between poverty and crime.<sup>36</sup> The paper studies the causes of crime, the impact of crime on individuals, families and the society, the efficiency of the measures to combat crime.*

#### **Causes of crime**

- Exclusion from opportunities and lifestyles

Poverty has the effect of limiting people's opportunities and leading to social exclusion. This is manifested in inadequate income, low educational attainment, unemployment, substandard housing, and powerlessness. While poverty does not automatically lead to crime, there is considerable evidence, not least in terms of the socio-economic profile of criminals, which suggests that it is a key social factor in precipitating criminal activity, especially among young unemployed males. Studies of the prison population in Ireland found that 80% of prisoners had left school early, before the age of 16, their basic literacy skills are limited, almost 90% were unemployed and 3/4 of them had taken drugs.

- Marginalized communities

The concentration of poverty in certain communities results in the accumulation of many negative factors – high unemployment, limited public services, isolation, rundown environment, disproportionately high share of young people. Such an accumulation of disadvantages creates conditions for criminality and vandalism.

- Obstacles to the reintegration of offenders into society

Ex offenders face serious difficulties in reintegrating into society, securing employment, accessing housing, and developing inter-personal relationships. This increases the likelihood of recidivism.

- Poverty, drug abuse and crime

Drug abuse is concentrated in marginalized communities. It is difficult to assess the linkages between poverty, drug abuse and crime, but it is clear that such linkages exist.

#### **Victims of crime**

- Individual victims

The most common crimes are larceny and burglary. The estimated value of stolen property in 1996 is 36 million Euro. An additional loss is the sense of fear and the loss of confidence, which is particularly strong in vulnerable groups.

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<sup>36</sup> Combat Poverty Agency Ireland (1998), *Crime and poverty: Submission to the National Crime Forum*.

- Communities at high risk of crime

Crime does not only originate from marginalized communities, but also has a strong negative effect on them. Local communities suffer more often from criminal activity, as well as from the fact that the area they live in is being stigmatized and avoided.

- Offenders

Offenders are victims of their own involvement in criminal activity. This closes many doors to their integration in society.

- Families of offenders

They pay a high cost, through a loss in income, disruption of marital and child-parent relationships, and isolation from friends and neighbors.

- Business and economic activity

In 1997, it was estimated that businesses in Dublin experienced a loss of 150 million Euro as a result of crime. The costs of crime can discourage businesses from locating in certain disadvantaged areas, where crime levels are seen as being too high. This in turn can contribute to the cycle of disadvantage in communities already marginalized.

- Society as a whole

Society pays a high cost for crime in a number of ways. These include costs for the criminal justice system, the prisons and the police, higher insurance rates, investment in personal security (alarms, etc.), loss of personal freedom (afraid to go out at night-time, etc.), increased welfare dependency. In 1996 the costs for Irish society as a result of crime have been estimated at 1 billion Euro.

## **Recommendations**

One of the main recommendations for limiting crime in Ireland is to reduce the extent of poverty. This includes reducing unemployment, addressing education problems and ensuring an adequate income.

## **2. Youth unemployment and crime – Australia**

According to a poverty survey conducted in Australia<sup>37</sup>, there is evidence to suggest that unemployment, combined with other disadvantaging factors, may result in youth engaging in crime. 100% of young women charged with serious offences indicate that they had no income. Young people who are poor are very vulnerable to criminal activity.

According to another research<sup>38</sup> it would be too simplistic to argue that unemployment causes crime in a direct straightforward, without-exception fashion. Unemployment may

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<sup>37</sup> Community Affairs References Committee (2004), *A hand up not a hand out: Renewing the fight against poverty, Report on poverty and financial hardship*, Commonwealth of Australia 2004.

<sup>38</sup> Kristy Muir with Anne Maguire, Daniel Slack-Smith and Maree Murray (2003), *Youth Unemployment in Australia: a contextual, governmental and organisational perspective*, A report by The Smith Family for the AMP Foundation.

be one influence on an individual's likelihood of undertaking criminal activity. But when unemployment is combined with other factors (such as early school leaving) it may result in criminal activity.

Long-term unemployment is an antecedent of crime. Firstly, the longer the period of joblessness, the greater the atrophy in human capital. Thus, given the link between human capital and success in the labor market, the longer a person is unemployed the less likely they are to find employment. As the likelihood of employment decreases the more the likelihood of 'illegitimate earning activity' increases. Secondly, long-term unemployment may affect an individual's attitude regarding future employment opportunities. A poor expectation of future employment prospects combined with a period of unemployment is more likely to result in criminal activity. For young people, lack of experience on the labor market and high unemployment mean that they would have little prospects and expectations to find work.

### **3. Youth unemployment and crime – France**

According to a study published by the German Institute for the Study of Labor,<sup>39</sup> labor market conditions are closely related to crime levels in France. This is particularly valid for youth unemployment.

Using the classical Becker model, in which unemployment is a measure of how potential offenders cope on the legitimate labor market, the authors identify the linkage between unemployment and crime. According to them higher youth unemployment leads to more crimes, especially crimes against property and drug-related crimes.

The authors recommend measures to limit youth unemployment and attract young people to education, which should bring real benefit in terms of return of investment.

### **4. Unemployment and crime – South Italy and New Zealand**

There are considerable regional disparities between North and South Italy. The average income in the north of the country is 60% higher than that in the south; the difference in the GDP per capita of population is even higher – around 70%. Unemployment is three times higher in the south, while long-term unemployment is more than four times higher than in the north. South Italy is affected by chronic problems, in particular a structural backwardness and a pervasive and strong presence of organized crime.

Conditions in South Italy are more comparable to those in a country like Bulgaria. Moreover, the disparities in the economic status of South and North Italy are, to some extent and with much conditionality, comparable to the disparities in the economic status of Roma and non-Roma in Bulgaria.

According to the Italian economic Paolo Buonanno from the University of Bergamo,<sup>40</sup> labor market conditions have a strong impact on crime in South Italy because of the

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<sup>39</sup> Denis Fougère, Francis Kramarz, Julien Pouget (2006), *Youth Unemployment and Crime in France*, Institute for the Study of Labor, IZA DP No. 2009.

economic and social characteristics of the region. High unemployment tends to increase crime, while higher wages tend to reduce it.<sup>41</sup>

A research on New Zealand<sup>42</sup> has reached to similar conclusions: unemployment strongly influences all types of crime.

## 5. Does crime affect unemployment?

According to two researchers from the Southampton University and the Autonomous University of Barcelona<sup>43</sup> unemployment and crime rates are positively correlated. Individuals who live in a community establish ties among them. Some of these ties are strong – with close friends and relatives, others are weak – random and transitory. When crime rate within a community increases, weak ties become less efficient in finding work since the likelihood to interact with a criminal is higher (which disturbs the network of personal contacts in the community). The overall job information available through personal contacts decreases, frictions in the labor market are exacerbated, and unemployment rises. This acts as a factor for ghettoization of the community and crime increases.

According to another study,<sup>44</sup> unemployment also affects society and the network of individual contacts. The longer a person is unemployed, the greater public capital they lose – they lose contacts and links with other people and become de-socialized. This progressively limits possibilities for finding employment.

## 6. Human capital and crime

According to a research conducted by Lance Lochner from the Department of Economics at the West Ohio University<sup>45</sup> there is a strong link between human capital and crime. There is also a strong negative link between the level of education and the prevalence of crimes against the property. Cognitive abilities and crimes that do not require particular qualification also exhibit similar correlation. Better education and more developed human capital increase the alternative costs (loss of income) associated with criminal activity and thus, discourages such behavior.

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<sup>40</sup> Paolo Buonanno, *Crime and Labor Market Opportunities in Italy (1993-2002)*, Università Degli Studi Di Bergamo, Dipartimento Di Scienze Economiche.

<sup>41</sup> For a review of less recent studies on the link between economic indicators and crime, see: Don Weatherburn (1992), *Economic Adversity and Crime*, trends & issues in crime and criminal justice, Australian Institute of Criminology.

<sup>42</sup> Kerry L. Papps, Rainer Winkelmann (1999), *Unemployment and crime: New evidence for an old question*.

<sup>43</sup> Antoni Calvo-Armengol Yves Zenou (2003), *Does Crime Affect Unemployment? The Role of Social Networks*.

<sup>44</sup> Antoni Calvo-Armengol, Matthew Jackson (2003), *The Effect of Social Networks on Employment and Inequality*

<sup>45</sup> Lance Lochner (2004), *Education, Work, and Crime: A Human Capital Approach*, National Bureau of Economic Research, Working Paper 10478.

Investment in education, the development of skills and the accumulation of human capital reduces crime, while subsidized income and employment mean that less human capital would be accumulated and thus, emerge as an obstacle to reducing crime.

## **7. Income and crime**

Studying the link between crime and labor market in the United States, three economists analyze a different measure for labor market conditions – wages.<sup>46</sup> They focus on young, unskilled men because they face the greatest risk of being involved in criminal activity. According to the authors, low wages in this group of people increase crime - robbery, larceny, burglary, violent attacks. They also identify a strong and statistically significant link between unemployment and crime.

## **8. Size of the community and income**

According to a recent research of the German Institute for the Study of Labor<sup>47</sup>, which examines the situation in the United States, there are serious disparities between the relative earnings of different ethnic groups depending on the relative size of the group. The author of the research claims that minorities and the majority complement each other on the labor market and thus, both benefit from working together. The effects of this complementarity are stronger when there is ethnic diversity on the labor market. Otherwise, if an ethnic minority is overrepresented in a local labor market, the positive effects of complementarity are reduced and the income of the people from the ethnic minority group is lower.

## **II. General model and economic effects**

1. Poverty, unemployment, poor education level and low human capital create more incentives for people to engage in criminal activity and the alternative cost of such behavior for them is low.
2. Crime and poverty lead to gradual ghettoization and segregation.
3. This further limits employment prospects and reduces opportunities for participation in the legitimate labor market.
4. As a result the period of unemployment is extended and the expectations for finding work in the future decrease.
5. This adds to the incentives for choosing crime as an option and engaging in criminal activity.
6. Criminal activity emerges as a lifestyle that successfully competes with participation in the legitimate labor market.

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<sup>46</sup> Eric D. Gould, Bruce A. Weinberg, David Mustard (1998), *Crime Rates and Local Labor Market Opportunities in the United States: 1979-1995*.

<sup>47</sup> Martin Kahanec (2006), *The Substitutability of Labor of Selected Ethnic Groups in the US Labor Market*, Institute for the Study of Labor IZA DP No. 1945.

Let us assume that Roma integration becomes a fact – they improve their level of education and human capital and start working on the legitimate labor market. What would be the effect of this development on crime?

A survey of 694 prisoners and detainees in Bulgaria showed that Roma among them are approximately 20%. According to a report published by the Center for the Study of Democracy<sup>48</sup>, as of 2002 between 38% and 40% of the inmates in 10 out of 12 correctional facilities in the country (excluding the two largest prisons in Sofia and Plovdiv) identified themselves as Roma.

However, as a share of the country's population, Roma are probably approximately 5%, reaching 10% in some age groups. This means that Roma are overrepresented among offenders. We could assume that if Roma become integrated, their share among offenders would be reduced to the average figures for the country.

According to data of the Center for the Study of Democracy, the losses incurred as a result of conventional crime in 2004 range between 213 and 265 million leva.<sup>49</sup> If we exclude car theft, the estimate would be between 190 and 237 million leva. We will settle for an average of 220 million leva per year.

As it was already mentioned, if Roma become integrated, their share among offenders would be reduced to the average figures for the country. This would reduce losses incurred as a result of crime by approximately 33 million leva per year.

In addition to the direct savings, related to the reduced losses as a result of crime, there would be also indirect savings in terms of economized costs for society – fewer expenses for security and alarms, fewer expenses for prosecuting and indicting offenders, fewer expenses for maintaining prisons.

Again according to the Center for the Study of Democracy, private security guards in Bulgaria are approximately 130 thousand people, which suggests that the ratio between private security guards and police officers is almost 2 to 1, among the highest in Europe. If we assume that the cost for one private security guard is 5000 leva per year, based on the average salary for the country, the annual cost of security would amount to approximately 650 million leva. Not all security-related costs, however, are associated with crime rates and the link is hardly a linear one. Therefore, we would assume that the savings are lower – approximately 30 million leva per year.

Under the 2006 State budget, 75 million leva are allocated to cover prison administration costs<sup>50</sup>. With 11,397 prisoners<sup>51</sup>, this means that the average expenses for one imprisoned person per year are 6580 leva. If Roma are integrated, annual savings could reach 11 million leva. It is more difficult to estimate the expenses for prosecuting, arresting and

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<sup>48</sup> Center for the Study of Democracy (2006), *Police Stops and Ethnic Profiling in Bulgaria*, Sofia.

<sup>49</sup> Center for the Study of Democracy (2006), *Criminality Trends in Bulgaria 2000 – 2005*, Sofia.

<sup>50</sup> Ministry of Finance, *2006 State Budget Report*, Sofia.

<sup>51</sup> Center for the Study of Democracy (2006), *Criminality Trends in Bulgaria 2000 – 2005*, Sofia.

indicting offenders because the Ministry of the Interior and the judicial system have many other functions and their detailed budgets are not publicly accessible.

The direct and indirect effects of Roma integration on crime could save costs for society amounting to at least 74 million leva per year. Of course, we should bear in mind that this estimate is tentative.

## **C. Annex 3: Welfare Reform – International Experience**

### ***1. Welfare system reform in the USA in 1996 – national results***

In 1996 the US Congress adopted an act (the Personal Responsibility and Work Opportunity Reconciliation Act – PRWORA), which reformed the welfare system along the following directions:

- Introduction of mandatory work requirements for a growing percentage of welfare recipients (the required percentage of people engaged in employment activities is reduced in proportion to the reduction in the number of welfare recipients);
- Decrease in the marginal tax rate (loss of income) at the transition from welfare to work;
- Harsher sanctions for violations of welfare eligibility requirements;
- Imposition of time limits for receiving welfare;
- More financial incentives to work.

The Act was expected to break the decennial tendency towards an increase in the number of people living on welfare. The results exceeded all expectations.

The Johns Hopkins University Professor Robert Moffitt, who chairs the committee of the National Academy of Sciences that evaluated welfare reform, arrived at the following conclusions:<sup>52</sup>

- Employment rates among single mothers, the group most affected by welfare reform, have been slowly increasing for over 15 years and have jumped markedly from 60% in 1994 to 72% in 1999.
- Among single mothers who have never been married (the group with the lowest levels of education and some of the highest rates of welfare receipt) employment rates rose even more, from 47% to 65% over the same period.
- Not all of this increase can be attributed to welfare reform. Part of the increase has been the result of the robust economy, which creates jobs. Another factor encouraging employment is the expansion of the Earned Income Tax Credit (EITC), which provides major financial incentives to work.
- Most people leaving welfare find work. 60 to 75% of welfare leavers find employment, while 30% of those who remain in the system are also employed.
- Two of the most important reforms are the imposition of federal time limits on the length of welfare receipt, and the use of more stringent sanctions for not complying with work requirements and other rules.
- The employment rates of welfare beneficiaries, who leave the system because they hit a time limit, are quite high – over 80%.

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<sup>52</sup> Robert A. Moffitt (2002), *From Welfare to Work: What the Evidence Shows*, Policy Brief No. 13, Welfare Reform & Beyond Policy Briefs, Brookings Institution.

- Fewer people apply for social assistance.

The positive effects of the welfare reform were also corroborated by Prof. Douglas Besharov, whose analysis<sup>53</sup> shows that:

- By 1994, welfare caseloads had reached a historic high of 5.1 million families, but then a seven-year decline began that eventually reduced the number of welfare recipients by 60%.
- The number of black families on welfare fell by 52%, and the number of Hispanic families by 44%, with immigration presumably countering what would have been a larger decline. According to another research on poverty among black children it fell to a historic low.<sup>54</sup>
- In 2001 the decline ceased, most likely because of the weakening economy. Nevertheless, the rise in the number of welfare recipients is small.
- One of the most significant achievements of welfare reform was to change the culture of welfare offices – workers went from simply giving checks to poor families to encouraging applicants and recipients to find jobs or other sources of support (in seeking or retaining a job, pursuing education, attending training courses, accumulating work experience) are also available. A sign stenciled on a New York City Job Center summed up the change: “Be prepared to work, or be prepared to leave.”
- Welfare reform accounted for one-fourth to one third of the decline in the number of welfare recipients, with the importance of the economy being slightly higher, while the expanded Earned Income Tax Credit explains 20 to 30% of the decline.

## ***2. Welfare reform in New York City***

In a study on welfare reform in New York<sup>55</sup>, Prof. Douglas Besharov and Prof. Peter Germanis make the following observations on the welfare system in New York, one of the most efficient in the US:

- Welfare recipients are required to work 20 hours per week, participate in labor skill building programs and educational activities for 15 hours per week, and seek employment.
- The cost and benefit analysis for the New York City budget shows that the program brings substantial net benefit.

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<sup>53</sup> Douglas J. Besharov (2002), *The past and future of welfare reform*, Bradley Lecture, delivered at the American Enterprise Institute.

<sup>54</sup> Robert E. Rector (2003), *Welfare Reform: Critics Were Wrong*, The Insider, Heritage Foundation.

<sup>55</sup> Douglas J. Besharov, Peter Germanis (2004), *Full-Engagement Welfare in New York City. Lessons for TANF's Participation Requirements*, University of Maryland, School of Public Policy, Welfare Reform Academy.

- Between 1995 and 2002 the number of welfare recipients decreased by almost 60%.

### ***3. Welfare reform in Wisconsin***

One of the most comprehensively studied models of welfare reform is that of Wisconsin. Over a period of 18 months, between January 1997 and June 1998, the number of welfare recipients decreased by 74%.<sup>56</sup> This remarkable result was achieved by abolishing the cash-welfare system and substituting it with a system based almost entirely on work.<sup>57</sup>

Participants in the Wisconsin Works (W-2) program receive subsidized or non-subsidized jobs based on their potential. Current and former welfare recipients are entitled to services designed to help them find or retain their job, boost their skills or income and overcome barriers to employment.

### ***4. Comparative analysis of reforms in different US states***

In order to deal with the strong difference of opinion as to what are the factors that influence most the decline in the number of welfare recipients, two scientists from the Heritage Foundation perform a regression analysis to study the experience of different states<sup>58</sup>. Their conclusions speak for themselves:

- States with an initial full-check sanction have a caseload reduction rate that is 25 percentage points higher than states with weak sanctions.
- States with a formal immediate work requirement have a caseload reduction rate that is 11 percentage points higher than states without such a requirement.
- The rate of caseload decline cannot be attributed to differences in state economic factors.
- Decline in the number of welfare recipients do not lead to an increase in child poverty. In fact, child poverty rates drop to their lowest for the last twenty years.
- Work requirements reduce welfare dependence, which is of vital importance. The dependence of families on welfare has a strong negative impact on their children – they tend to drop out of school more often, their cognitive skills are less developed, they become welfare recipients as adults, they tend to have children out of wedlock, and they receive lower income from work as adults. (An earlier

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<sup>56</sup> Robert E. Rector and Sarah E. Youssef (1999), *The Determinants of Welfare Caseload Decline*, Heritage Foundation, CDA99–04.

<sup>57</sup> Douglas J. Besharov, Peter Germanis (2004), *Full-Engagement Welfare in New York City. Lessons for TANF's Participation Requirements*, University of Maryland, School of Public Policy, Welfare Reform Academy.

<sup>58</sup> Robert E. Rector and Sarah E. Youssef (1999), *The Determinants of Welfare Caseload Decline*, Heritage Foundation, CDA99–04.

study<sup>59</sup> adds to the picture with the following conclusions: the increased amount of welfare benefits leads to a statistically substantial increase in the number of welfare recipients, the number of poor people, the number of births by single mothers, the number of abortions and violent crimes.)

The results of the Heritage Foundation study are confirmed by a more recent research of the Cato Institute in Washington DC.<sup>60</sup> Its most important finding is that the strength of state sanctioning policies has the largest impact on caseload declines. Other variables such as the strength of the economy and the benefit levels, achieve statistical significance, but their impact on caseload declines is considerably lower.

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<sup>59</sup> William A. Niskanen (1996), *Welfare and the Culture of Poverty*, Cato Journal 16/1.

<sup>60</sup> Michael J. New (2002), *Welfare Reform That Works: Explaining the Welfare Caseload Decline, 1996–2000*, Cato Policy Analysis, No 435.

#### D. Annex 4: Employment, income, healthcare and mortality

There are many discrepancies in the available data on Roma unemployment. According to different estimates unemployment rate among Roma varies between 40%<sup>61</sup> and 80%<sup>62</sup>. Estimates on the number of Roma also differ depending on the source – 370,000 people<sup>63</sup> or twice as much.<sup>64</sup> In order to cope with these discrepancies, we will examine two cases with regard to unemployment – 40% and 80%, and two scenarios with regard to the population – 370,000 people and 580,000 people. We calculate the number of Roma at working age based on the NSI data for the share of children in the entire Roma population.

In each of the scenarios examined, we produce two final estimates on the number of unemployed Roma – 40% or 80% according to different studies. By “unemployed” we imply people who are capable of working but do not work (therefore, we include those who have registered as unemployed and are looking for a job, as well as those who are considered “discouraged workers” and do not actively seek employment, although they would like to work).

We can calculate the income produced as a result of the increased employment of Roma by using data on the average gross value added by one worker in the economy. We assume that 70% of the unemployed Roma will be able to find a job, if the above mentioned economic measures are adopted and the labor market barriers are eliminated. Given that the measures are targeted to both the supply of and the demand for labor and having in mind the effect of similar reforms, such an assumption is realistic. We also assume that the average added value produced by employed Roma would equal 70% of the nationwide average (because of the current low educational level of Roma, the lack of labor skills, experience and qualification).

**Table: Income in case of integration**

	Scenario 1		Scenario 2	
Number of Roma	370,000		580,000	
Children and people beyond working age	143,158		224,410	
Working age people	226,842		355,590	
	80% unemployment	40% unemployment	80% unemployment	40% unemployment
Unemployed	181,474	90,737	284,472	142,236
Employed	45,368.42	136,105	71,118.07	213,354
<b>Effects on the economy</b>				
Current value extrapolated for a 10-year period	11,020,040,286	8,109,086,248	17,274,657,746	12,711,540,606

Source: Estimates made by the authors

<sup>61</sup> “Faces of poverty, Faces of hope” *The Magnitude of the Challenge* (2005), United Nations Development Programme.

<sup>62</sup> “Avoiding the Dependency Trap: The Roma in Central and Eastern Europe”, 2003, United Nations Development Programme.

<sup>63</sup> *Census* (2001), National Statistical Institute.

<sup>64</sup> “Faces of poverty, Faces of hope” *The Magnitude of the Challenge* (2005), United Nations Development Programme.

### ***Healthcare and mortality***

The improved quality of life – income, living conditions, healthcare and the related better hygiene and health education, would positively contribute to reducing mortality among both children and adults. We establish the monetary value of the lives thus saved using the standard “value of statistical life” method<sup>65</sup>.

According to NSI data for 2003, child mortality in the country is 9.9/1000 among Bulgarians; 17/1000 among Turks and 28/1000 among Roma.<sup>66</sup> Over the last few years, according to the NSI, child mortality in the country has been reduced by nearly one-third. This shows that the health status of the population improved along with the country’s economic situation. Research conducted by the World Bank in many countries also corroborates this conclusion.<sup>67</sup>

We will examine two scenarios for improving child mortality rates among Roma: to the current levels valid for Bulgarians and to the current levels valid for Turks. Based on population estimates, we assume that between 9,000 and 14,000 children are born every year.

Reduced child mortality translates into 990 to 2534 saved lives over a 10-year period. We use the value of statistical life in the United States, which we adapt to Bulgarian pricing and income levels. Based on this estimate, the value of statistical lives saved over a 10-year period would range between 4 and 6 billion leva according to different estimates for population and birthrate.

### ***Effect of reduced mortality***

Number of newborn children	9,000	9,000	14,000	14,000
Child mortality rate	252	252	392	392
Child mortality rate in case of integration	89	153	139	238
Changed /reduced mortality per year	163	99	253	154
Cumulative change for a 10-year period (number of children)	1,629	990	2,534	1,540
Estimated value of the change	4,072,500,000	2,475,000,000	6,335,000,000	3,850,000,000

<sup>65</sup> For comprehensive details, see: S. Madheswaran (2004), *Valuation of Statistical Life. A Brief Bibliographical Survey*, Institute of Social and Economic Change, Bangalore.

<sup>66</sup> See: *Health Strategy for Ethnic Minorities in Disadvantaged Position*.

<sup>67</sup> World Bank (2005), *Public Health in Bulgaria, Policy Notes*.