

# BULGARIA

## Living Conditions before and after EU Accession



Human Development Sector Unit

**THE WORLD BANK**



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# **BULGARIA:**

## *Living Conditions before and after EU Accession*

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## CURRENCY AND EQUIVALENT UNITS

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## ACRONYMS AND ABBREVIATIONS

|       |  |      |  |
|-------|--|------|--|
| ALMP  | active labor market programs                       | LFP  | labor force participation                              |
| BEEPS | Bank Environment and Enterprise Performance Survey | LFS  | Labor Force Survey                                     |
| BGN   | Bulgarian-denominated lev                          | MES  | Ministry of Education and Science                      |
| CBN   | Cost of Basic Needs                                | MLSP | Ministry of Labor and Social Policy                    |
| CPI   | consumer price index                               | MOF  | Ministry of Finance                                    |
| ECA   | Europe and Central Asia                            | MTHS | Multitopic Household Survey                            |
| EU    | European Union                                     | NGO  | nongovernmental organization                           |
| EUR   | Euro (€)   | NMS  | new member state                                       |
| FDI   | foreign direct investment                          | NSI  | National Statistical Institute                         |
| GDP   | gross domestic product                             | OECD | Organisation for Economic Co-operation and Development |
| GMI   | guaranteed minimum income                          | PISA | Program for International Student Assessment           |
| IDF   | Institutional Development Fund                     | PPS  | Purchasing power standard                              |
| HBS   | Household Budget Survey                            | PPP  | purchasing power parity                                |
| ILO   | International Labor Organization                   | SAA  | Social Assistance Agency                               |
|       |  | SME  | small and medium enterprise                            |

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## OVERVIEW AND KEY FINDINGS\*

This report assesses the living conditions in Bulgaria before and after EU accession. It provides the trends in monetary and non-monetary dimensions of living standard as well as the dynamics in the distribution of the poor among various geographic and population subgroups between 2003 and 2007, a period characterized by continued robust growth and intensive reform efforts that culminated in EU membership. As this analytical work was begun well before the onset of the current global economic crisis and primarily intended to measure the improvements in the living conditions in Bulgaria in the run-up to the EU accession, the poverty and distributional impact of the 2008 worldwide financial crisis is not covered in the report. Please refer to another report by the World Bank, *Bulgaria: Poverty Implications of the Global Financial Crisis*, for a detailed summary of the main channels of transmission of the crisis to households and simulations of the indicative estimates of the poverty impact (World Bank, 2009). However, we believe the report provides a good benchmark for the post-crisis assessments and that some of the core messages of the report are relevant for the post-crisis economic policy formulations. Further, the detailed empirical evidence on the nature, trend, and profile of poverty presented throughout the report would support the design of measures to mitigate the impact of the crisis.

In the run-up to accession to the European Union (EU), the Bulgarian economy and institutions underwent major positive transformations. A stable macroeconomic environment was achieved with, on average, single-digit inflation; the size and scope of the public sector was substantially reduced; and the framework for business and foreign investment was improved. Now an EU member state since January 1, 2007, Bulgaria has come a long way from its difficult early years of transition. The transitional years saw a 28 percent decline in real GDP between 1990 and 1995 and a severe economic crisis in 1996–97 that resulted in a 15 percent additional decline in real GDP and triple-digit inflation. Since 1998, Bulgaria has made remarkable progress toward long-term stability and sustained economic growth. The period from 1998 to 2007, was characterized by substantial increases in the size and scope of the private sector through series of large and small-scale privatizations, improved regulatory environment for doing business, low inflation, and sustained output expansion.

*Buoyed by sound macroeconomic policies and deep structural reforms, the Bulgarian economy has maintained an average annual GDP growth rate of more than 5 percent between 1998 and 2008. More important, growth has been led by the private sector, which now accounts for more than 75 percent of the economy. Investment surged to nearly 30 percent of GDP in 2006, compared with less than 10 percent in 1996–97 (World Bank 2007). Together with the active labor market policies pursued by the Bulgarian government, the continued strengthening of the private sector as an engine of job creation, contributed to a sustained decline in unemployment from more than 18 percent in 2001 to less than 7 percent in 2007. Although job creation fell short of job loss until 2001, according to a survey of employment in all registered firms (Rutkowski 2003), there has been net positive job creation since then. Since 1998 real wages have increased, lately, at a much faster pace than real GDP growth.*

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\* Most figures and tables referred to in the Overview and Key Findings section are located in the main report.

*Owing to this significant positive growth record and improved business climate for private sector job creation, there is a general consensus that the living standard of most Bulgarians is rising and poverty is declining (World Bank 2005).* However, the degree of association between growth and poverty depends on many factors, including the unemployment rate, wage rate, social programs, and the extent of inequality. And, despite strong economic growth track record and a major transformation of its economy and institutions, Bulgaria has one of the lowest per capita incomes among the new member states (NMS)—at PPS in 2005, it was 32 percent and 56 percent of the average EU25 and EU8 levels, respectively. Moreover, some features particular to Bulgaria—such as low labor market participation rates and declining working age population—may have a significant bearing on growth and poverty linkages. These country-specific characteristics highlight not only the large income gap Bulgaria has to close but also the essentiality of designing sound strategies to mitigate the social costs of the policies and programs that need to be continually pursued to achieve convergence.

*This report presents a rigorous empirical estimation of how much poverty declined and who benefited the most and by how much from the enhanced structural reforms and resultant growth in the run-up to EU accession.* It paints a broad picture of poverty trends, the dynamics in the distribution of poor among various localities and population subgroups, and the factors driving poverty. Specifically, the report seeks answers to the following questions. Who are the poor in Bulgaria? Has the benefit of the robust growth recorded over the last several years trickled down to the poor and vulnerable? What are the regional dimensions of poverty? What is the breakdown of poverty by socioeconomic, geographic, and demographic dimensions? How do the living conditions of ethnic minority groups compare with those of the general population? What are the key factors responsible for the observed trends in the incidence of poverty? Understanding the levels and trends of poverty and inequality among various individual, household, geographic, and socioeconomic groups, as well as assessing the impact of past and current policies and programs, are key to designing strategies to mitigate the social costs of future reforms on the poor and vulnerable groups.

Using data from two nationally representative and comparable multitopic household surveys done in 2003 and 2007, this report provides estimates of improvements in living conditions during this period. Both monetary and nonmonetary indicators of welfare are used to assess whether a household or an individual possesses enough resources or abilities to meet their current and basic human needs and to measure the improvements in living conditions. Household consumption expenditures as well as household income and an associated poverty line, i.e., the amount of consumption that society believes represents a minimum acceptable standard of living, are used to measure monetary poverty (box 1). The nonmonetary indicators of living conditions include various measures of access to adequate food, clothing, housing, clean water and sanitation, health care, and education. Detailed data and discussions on a range of aspects of living conditions and their measurements are presented in the main report and its annexes. This overview summarizes the main findings of the report. Figures and tables referred to in the Overview are located in the main report.

### **Box 1: Concepts and Definitions of Key Variables in Poverty Measurement and Analysis**

*The notion of poverty.* The concept of poverty is multidimensional and encompasses many elements. To name just a few: lack of adequate access to food, clothing, shelter, clean water and sanitation, health care and education; early mortality; powerlessness and social exclusion; and limited access to consumer and productive assets. Put in a different way, poverty measurement and analysis asks whether a household or an individual possesses enough resources or abilities to meet their current and basic human needs.

*Measuring poverty.* Two key ingredients are required for measuring poverty. First, a relevant indicator of well-being needs to be decided upon. Second, a *poverty line* has to be selected, the threshold below which a household or an individual will be classified as *poor*. With regard to the first ingredient, the two commonly used monetary measures of welfare are income and consumption expenditures.

*Consumption expenditures.* Construction of consumption expenditures involves aggregating expenditures on various consumption items such as food, user values of durable goods, health and educational expenditures, housing, own-production, and so on. Similarly *income aggregate* includes earning from labor and nonlabor sources such as wages, social transfers, profit from farming and businesses, income from informal activities, and so on. In the aggregation process, several adjustments are made, including: (1) adjustment for differences in needs among households of different size and composition; (2) adjustments for the ages of household members and for economies of scale; and (3) adjustments for differences in prices across regions and at different points in time.

*Poverty lines.* The poverty line is a cutoff point separating the poor from the nonpoor. There are two ways of selecting a poverty line: relative and absolute. *Relative poverty lines* are defined in relation to a country's overall distribution of the welfare measure (e.g., consumption). For example, in Bulgaria the poverty line is set at 60 percent of the mean income, following EUROSTAT methodology. *Absolute poverty lines* are anchored in some absolute standard of what households or individuals should be able to count on to meet their basic needs. These absolute lines are often based on estimates of the cost of basic food needs, that is, the cost of a nutritional basket considered minimal for the health of a typical family, to which a provision is added for basic nonfood needs. To allow cross-country comparisons, the *national poverty line* of BGN 152 for 2007 and the *international poverty lines* of \$2.15 and \$4.30 per capita per day at the relevant constant purchasing power parity (PPP) for temperate zone countries such as Bulgaria.

*Poverty indexes.* The final step in poverty measurement is choosing a mathematical function that translates the comparison of the well-being indicator and the chosen poverty line into one aggregate poverty number for the population as a whole or population subgroups. Three types of poverty measures are used in this report: the headcount ratio, poverty gap, and squared poverty gap. Although the poverty headcount is widely used, the measures of depth and severity complement the incidence of poverty and provide insights on how far the poor are from the socially acceptable level of subsistence, that is, from the poverty line.

## Key Messages

Nine main messages emerge from the analyses and the associated supportive evidence. The first five messages are encouraging. The others point to challenges for Bulgaria in achieving more inclusive growth and development:

*(1) Living standards improved significantly between 2003 and 2007.*

*Positive developments in Bulgaria have led to significant improvement in welfare between 2003 and 2007. Average household consumption increased from BGN 339 in 2003 to BGN 410 in 2007 (in 2007 prices), a 21 percent increase in four years (Table 1). Rural areas and the poorest wealth groups experienced a higher rate of improvement in their well-being. Consumption by households in the poorest quintile improved by more than 32 percent, in the second and third quintile by more than 25 percent, compared with 13 percent for the richest quintile. Thus, economic growth has been largely pro-poor, and the poor have captured a slightly greater relative share of the growth than the better-off. The income-based welfare measure also increased significantly, at a higher rate of 37 percent. The discrepancy between income and consumption expenditures declined between 2003 and 2007, suggesting a possible decline in the shadow economy and more willingness to declare income from such sources as well as the growing importance of the formal sector in generating livelihoods. Mean per adult equivalent consumption expenditures were more than 20 percent larger than the mean income per adult equivalent in 2003, compared with a discrepancy of only 10 percent in 2007.*

**Table 1: Consumption and income have increased substantially between 2003 and 2007.**

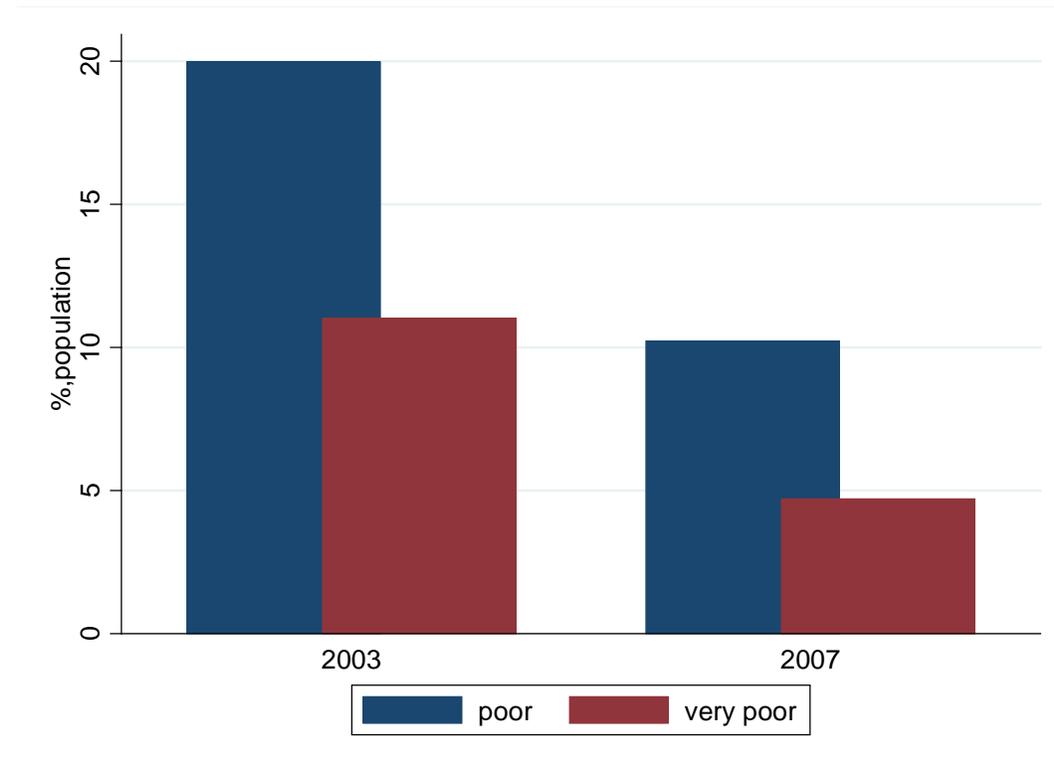
| Area                 | Mean per adult equivalent expenditure, real terms |      |            | Mean per-adult equivalent income, real terms |      |            |
|----------------------|---|------|------------|--|------|------------|
|                      | 2003  | 2007 | Change (%) | 2003   | 2007 | Change (%) |
| Urban                | 369   | 437  | 19         | 303  | 398  | 31         |
| Rural                | 273   | 344  | 26         | 195  | 298  | 52         |
| <i>Quintile</i>      |   |      |            |  |      |            |
| Quintile 1 (lowest)  | 133   | 176  | 32         | 84   | 113  | 36         |
| Quintile 2           | 221   | 278  | 26         | 160  | 221  | 38         |
| Quintile 3           | 291   | 365  | 25         | 228  | 314  | 38         |
| Quintile 4           | 382   | 475  | 24         | 319  | 427  | 34         |
| Quintile 5 (highest) | 669   | 758  | 13         | 557  | 771  | 39         |
| Total                | 339   | 410  | 21         | 269  | 369  | 37         |

Sources: MTHS 2003, 2007.

*As a result of increased consumption and income, headcount poverty declined from about 20 percent in 2003 to 10.2 percent in 2007—using an absolute poverty line of BGN 185 a month per adult equivalent—essentially halving the incidence of absolute poverty (Figure 1). More important, the data suggest an even faster decline in extreme poverty, with only 4.5 percent of the total population consuming less than BGN 145 per adult equivalent, compared with 11 percent in 2003. The improvement can be attributed to structural reforms, macroeconomic stability, and the ensuing robust and sustained growth, which lifted the consumption levels of many households after 1998. The evidence from the household survey data points toward a*

strongly positive correlation between economic growth and poverty reduction: More than 75 percent of the reduction in poverty between 2003 and 2007 was attributable to growth in per capita consumption. The decline in the unemployment rate and a low proportion of working poor due to real wage increases also helped tamp down the incidence of poverty. This was an outstanding achievement in the short yet reform-intensive period that culminated in EU accession.

**Figure 1: Consumption poverty declined significantly between 2003 and 2007**



Sources: MTHS 2003 and 2007.

(2) *Bulgaria has become a “more equal” society.*

*Inequality fell appreciably between 2003 and 2007.* The Gini coefficient of consumption expenditures declined from 0.313 in 2003 to 0.283 in 2007, a nearly 10 percent reduction in 4 years.<sup>†</sup> Other measures of inequality such as decile dispersion ratio<sup>‡</sup> also show a remarkable decline in inequality. The inequality was lower in Bulgaria in 2007, as measured by the Gini index, than in most other new member states (NMS) such as Estonia, Lithuania, Poland, and Romania, and comparable with the average level of inequality of EU-25 and EU-15. Because inequality considerations are important to policymakers—especially in countries that underwent

<sup>†</sup> The *Gini index* is a measure of statistical dispersion most prominently used as a measure of inequality in consumption or income distribution. It is defined as a ratio with values between 0 and 100: A low Gini coefficient indicates more equal consumption or income distribution, while a high Gini coefficient indicates unequal distribution. For instance, the Gini index of 0 corresponds to perfect equality (everyone has exactly the same consumption or income) and the Gini index of 100 corresponds to perfect inequality (one person has all the wealth, and everyone else has zero wealth).

<sup>‡</sup> The ratio is defined, for example, by the average consumption of the richest 5 percent of the population divided by the average consumption of the bottom 5 percent.

transition from a planned to market economy—this is a welcome development with important implications for growth and social cohesion. Much of this improvement took place in urban areas where inequality declined by close to 11 percent.

*(3) Growth has been pro-poor, particularly in urban areas.*

*The main reason for the observed narrowing in inequality was largely pro-poor economic growth in which the urban poor gained significantly more than the rich.* For example, in 2007 prices, consumption per adult equivalent of the poorest 5 percent of the urban population increased by 48 percent, from BGN 86 in 2003 to BGN 127 in 2007, whereas the consumption of the richest 5 percent of the urban population showed no significant change (Table 1). Although rural households also benefited from growth (on average more than urban residents), economic growth in the countryside was more or less uniform across wealth groups. The implication of more equitable distribution for Bulgaria merits stating: lower aggregate inequality ensures that the poor will obtain a higher share of the gains from future growth than they could were inequality higher.

*(4) Living conditions of the disabled improved significantly.*

*Living conditions have improved much more among the disabled than in the general population.* The poverty headcount has declined by more than 100 percent for the disabled. In 2003, the disparity in the incidence of poverty was much larger between the disabled (25.2 percent) and the nondisabled (19.5 percent). Extreme poverty declined more spectacularly for the disabled than for the general population, from 12.4 percent in 2003 to 4.5 percent in 2007, slightly lower than the 4.7 percent for the overall population. This finding is important because population certified as disabled made up more than 8 percent of the population in 2007. The appreciable decline in poverty among the disabled may in part be attributable to disability pensions and integration supplement benefits to support and integrate the physically or mentally disadvantaged into the mainstream economy.

*(5) Bulgaria appears to have lessened the phenomenon of the working poor.*

The phenomenon of the working poor, a common recent feature of poverty in most EU NMS and generally in the World Bank Europe and Central Asia (ECA) Region (Alam, et al. 2005) is less evident in Bulgaria. The incidence of poverty among the employed (4 percent) was less than half the national average, reflecting improved labor market conditions (better wages) for the working population. The unemployed were at more than three times the national average risk of poverty and eight times that of working individuals (Figure 2.10). The unemployed, though only 10 percent of the workforce, accounted for nearly half of the poverty among all labor market participants. A closer look at the labor market in section 3 shows that, among the employed, the self-employed in agriculture faced a higher than average risk of poverty. In 2007, unlike in 2003, hired labor in the private sector fared better than those employed in the public sector. The private sector accounted for the largest share of employment and provided jobs for 56 percent of the employed in 2007.

*(6) Nonmonetary dimensions of well-being registered modest improvements.*

*Like monetary poverty indicators, most nonmonetary indicators of deprivation are also declining, but more slowly.* For instance, the proportion of individuals reporting difficulties

meeting basic needs (food, clothing, heating, education and health care) did not decline to the same extent as monetary poverty. Similarly, while the share of people living in a house with a leaky roof and broken windows declined appreciably, the improvements in these nonmonetary dimensions of living conditions were much less dramatic than the decline in consumption poverty. With regard to individual dimensions of nonmonetary well-being, the share of individuals aged 18 and older with less than initial education (grades 1 to 4) improved little, and the proportion of individuals reporting poor health showed no improvement. Employment poverty, the share of working age individuals looking for but unable to find a job, declined significantly in 2007.

*(7) Poverty is highest among children and the elderly.*

*Children (younger than 6 years of age) and the elderly (ages 65 and above) were the poorest with a headcount poverty rate of about 16 percent, 6 percentage points higher than the national average in 2007.* People in the youngest and oldest age groups together comprised 25.3 percent of the population yet accounted for more than 39 percent of the poor. The poverty incidence was almost 2.5 times higher among children under the age of 6 than for their urban counterparts. The key contributing factor for worsening distribution of child poverty was high poverty among the Roma children. In 2007, though accounting for less than 24 percent of Bulgaria's children under 6 years of age, Roma children contributed 78 percent of total child poverty. Although poverty fell among children of all ethnic backgrounds, child poverty became more concentrated among the Roma.

*Households with many children, a key feature of Roma families, face much a higher risk of poverty.* The likelihood of falling into poverty increased to more than 47 percent for a household with three or more children, compared with 14 percent for a household with two children. Similarly, large household size was directly associated with a high level of poverty. For a household with six or more members, the poverty rates increased to more than 25 percent, more than twice the national average. Although households with six or more members represented less than 11 percent of the population, they accounted for 27 percent of the poor.

*(8) The unskilled face enormous difficulties in improving their living conditions.*

*Education is strongly associated with lower poverty.* Individuals with less than secondary education represented only 37 percent of the population 18 years of age and above, but made up nearly 80 percent of the poor in 2007. The poverty rate for individuals with less than secondary education was double the national average and seven times the poverty rate of individuals with secondary or higher education. Education also affects welfare through the labor market: individuals with less than secondary education were twice as likely to be unemployed as the better educated. A quarter of preschool-age children from poor households, but half of their peers from nonpoor households, reported attending preschool in 2007. Similarly, the primary (grades 5 to 8) and secondary school attendance among children from poor households was much lower than for children from nonpoor households. This phenomenon suggests a vicious circle of poverty and vulnerability as the uneducated or less-educated not only face the greatest obstacles in sending their children to school but also have enormous difficulties finding a well-paid job.

*(9) Poverty is concentrated among distinct and identifiable groups.*

*Despite considerable improvement in welfare nationwide, some groups benefited more than others from Bulgaria's robust growth, and therefore large and significant ethnic and regional disparities persist.* Despite a substantial decline in their poverty, almost half of the Roma still lived below the poverty line in 2007, down from three quarters in 2003. The Roma remain at much higher risk of poverty not only because of their disproportionately disadvantageous starting position in 2003 but also because of lower than average improvement in their welfare indicators, compared with the other ethnic groups.

*In 2007, the Roma were still much worse-off than the ethnic Bulgarians, the Turks, and others were in 2003.* With the considerable decline in poverty nationwide—unmatched in the Roma population—the share of the Roma poor nearly doubled between 2003 and 2007. The Roma constituted more than 40 percent of the poor and two thirds of the very poor in 2007, despite accounting for only 4.6 percent of the total population, according to the 2001 census. Combined, Roma and Turks made up about 14 percent of the population during the 2001 Population Census, yet accounted for almost two thirds of the poor in 2007.<sup>§</sup>

*Geographic disparity in living standards is also significant.* Living conditions in urban areas were substantially better than in rural areas. Municipal centers and small towns were significantly poorer than residents of the capital and regional cities, highlighting the inverse relationship between well-being and the level of urbanization. Rural areas were twice as poor as the capital city. In 2007, less than 30 percent of Bulgarians lived in rural areas. However, households there comprised 43 percent of the poor.

### *Conclusions*

*According to the evidence, positive developments in Bulgaria led to significant improvements in welfare, but with noteworthy disparities among different population groups.* In 2007, only 1 out of 10 Bulgarians—close to three quarters of a million people—lived in poverty with consumption below or at the poverty line, compared with 20 percent four years earlier. However severe pockets of poverty persisted among certain groups, including the unemployed, ethnic minority groups, children in large families, and the elderly with weak family support structures. In contrast to the substantial declines in monetary poverty, improvements in nonmonetary dimensions of living conditions were much less dramatic. The proportions of individuals reporting difficulties meeting certain basic needs declined, as did the number of people living in dilapidated homes, but by much less than the reduction in consumption poverty.

*More markedly than in years past, poverty in 2007 was concentrated among distinct identifiable groups, signaling the need for policies that address underlying structural disadvantages rather than transient interventions for these groups.* The strong connections between unemployment and poverty, and children and large households, as well as the disproportionately high incidence of poverty among ethnic minority groups such as the Roma put these groups at high risk of

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<sup>§</sup> Based on the Multitopic Household Survey (MTHS), the proportion of the Roma population was 8 percent in 2007, larger than that reported by the 2001 Population Census (4.6 percent). The discrepancy may be partly explained by the fact that the World Bank MTHS data were based on self-reported ethnicity, and a larger number of people may have chosen to report themselves as part of the minority ethnic group in the MTHS.

poverty. These are the key features of poverty developments in Bulgaria today. The concentration of poverty among these groups suggests that targeting interventions to address poverty should be easy, yet large pockets of resilient, persistent, and seemingly intractable chronic poverty remain. The recurrent poverty outcome deficiencies highlight the need for structural measures to fight poverty among these distinct groups such as building their productive and protective assets and investing in human capital to break intergenerational transfer of poverty.

# 1. INTRODUCTION

1. This report provides estimates of the level poverty and changes in living conditions between 2003 and 2007 in the new EU member state Bulgaria. This period was characterized by continued robust growth and intensive reform efforts that culminated in EU membership on January 1, 2007. It presents a rigorous empirical estimation of how much poverty declined, who benefited the most, and by how much from the structural reforms and ensuing growth in the run-up to EU accession. The report paints a broad picture of poverty trends, the dynamics in the distribution of the poor among various localities and population subgroups, and the factors driving poverty. Answers are sought to the following questions. Who are the poor in Bulgaria? Have the benefits of the documented robust growth trickled down to the poor and vulnerable? What are the regional dimensions of poverty? What is the breakdown of poverty by socioeconomic, geographic, and demographic dimensions? How do the living conditions of ethnic minorities compare with those of the general population? What are the key factors responsible for the observed trends in the incidence of poverty?

2. Nationally representative, comparable, and multitopic household survey data collected in 2003 and 2007 form the basis for answering these important questions, for measuring and analyzing poverty and its trend in Bulgaria. Although this is not the first poverty analysis of Bulgaria,<sup>1</sup> it differs from earlier analyses in important ways. Poverty measurement and analysis in the present report is based on two comparable and nationally representative household surveys that devote particular attention to the comparability of welfare indicators across time and space. The two sets of data, collected at the outset and at the end of the transition period, allow sound analysis of changes in poverty and other indicators of living conditions after Bulgaria had undertaken the multifaceted structural reforms required to comply with EU accession demands. This makes the report unique.

3. The report does not address the impact of the unfolding global financial crisis. It does, however, present the latest, useful empirical evidence on the nature, trend, and profile of poverty in Bulgaria that could support design of measures to mitigate the likely negative impact of the crisis on growth and poverty reduction.

## Background

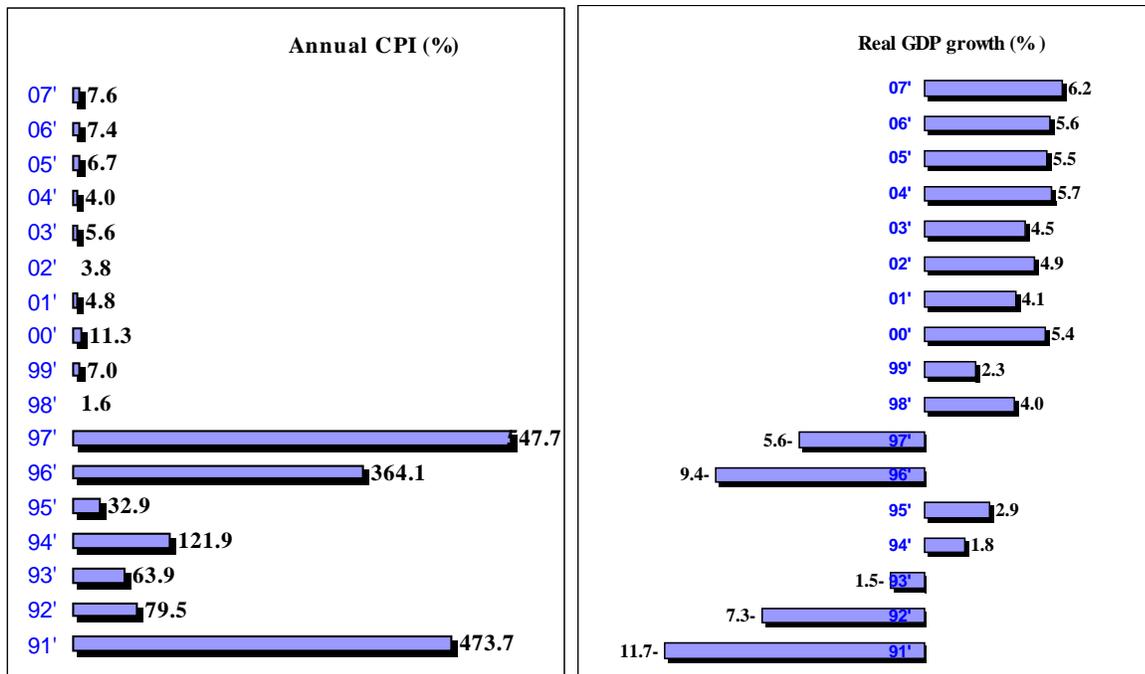
4. Bulgaria has made remarkable progress toward long-term stability and sustained economic growth following the severe economic crisis of 1996–97. Now an EU member state, Bulgaria has come a long way from its difficult early years of transition to a market economy. After a 28 percent decline in real GDP between 1990 and 1995, the economic crisis of 1996–97 resulted in a further decline of 15 percent in a single year as inflation rate reached a triple digit (Figure 2.1). However, after 1998 and in the run-up to EU accession, the Bulgarian economy and institutions underwent major positive transformations. The period from 1998 to 2007, was characterized by a substantial reduction in the size and scope of the public sector through a series

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<sup>1</sup> See, for example, World Bank (2002); National Statistical Institute (2004).

of large and small-scale privatizations, improved regulatory environment for doing business, low inflation, and sustained output expansion. A broad structural reform program contributed to the solid economic performance. Buoyed by sound macroeconomic policies and deep structural reforms shored up by the inducements of EU membership, Bulgaria has maintained an average GDP growth rate of more than 5 percent during the period. More importantly, the growth has been led by the private sector, which now accounts for more than 75 percent of the economy. Investment has surged close to 30 percent of GDP in 2006, compared with below 10 percent in 1996–97, while FDI stock accounted for close to 50 percent of GDP in 2005 (World Bank 2007).

**Figure 2.1: Macroeconomic Snapshot, 1991–2007**



Source: World Bank staff estimations based on Bulgaria National Statistical Institute (NSI) and World Bank Development Data Platform (DDP) data.

5. Together with the active labor market policies pursued by the Bulgarian government, the continued strengthening of the private sector as an engine of job creation contributed to a sustained decline in unemployment from more than 18 percent in 2001 to less than 7 percent in 2007. Among persons reporting being unemployed, the number of long-term unemployed<sup>2</sup> declined from more than 38 percent in 2003 to 35 percent in 2007 (based on MTHS 2003 and 2007). Job creation fell short of job losses until 2001, according to a survey of employment in all registered firms (Rutkowski 2003), but since then there has been net positive job creation. Some of the main factors that had led to net job loss were addressed—for example, the less-than-friendly business environment for the private sector and labor market rigidities (e.g., excessive hiring and firing costs). Private sector employment grew from 61 percent of total employment in 1998 to 79 percent in 2005.

6. After 1998 real wages increased and at a much faster pace than real GDP growth in 2007. For instance, in 2007, wages grew at the astonishing rate of 19 percent. In Bulgaria, minimum wages are set fairly high, about 46 percent of the average reported wages in 2005, although it slightly declined to 42 percent in 2007. In some low-wage sectors of the economy such as

<sup>2</sup> Individuals looking for a job for more than 12 months.

agriculture and forestry, the minimum wage is about 65 percent of the average wage. While this may act as a perverse incentive, reducing the tax base by keeping many small and medium enterprises (SMEs) in the informal sector, high minimum wages, together with the remarkable growth in wage rates, would help alleviate poverty.

7. Owing to this significant positive growth record and improved business climate for private sector job creation, there is a general expectation that the living standard of most Bulgarians is on the rise and poverty, on the decline.<sup>3</sup> However, the degree of association between growth and poverty depends on many factors, including unemployment, wages, social programs, and the extent of inequality. And, despite its strong track record on economic growth and major transformation of its economy and institutions, Bulgaria has one of the lowest per capita incomes among the NMS—at PPS in 2005, it was 32 percent and 56 percent, respectively, of the average level of EU25 and EU8. Moreover, Bulgaria has some peculiar features not widely shared by other EU member countries that may have significant bearing on growth and poverty linkages such as low labor market participation rates and a declining working age population. These country-specific characteristics highlight not only the large income gap Bulgaria has to close but also the essentiality of designing sound strategies to mitigate the social costs of the policies and programs that need to be continually pursued to achieve convergence. Understanding the levels and trends of poverty and inequality among individual, household, geographic, and socioeconomic groups, as well as assessing the impact of past and current policies and programs, are key for designing strategies to mitigate the social costs of future reforms on the poor and vulnerable groups.

8. Still largely unknown, however, are the current distributional and poverty reduction impacts of the ambitious pre-accession reform efforts on different regional and ethnic groups. The World Bank, in collaboration with MLSP and the Open Society Institute (OSI), implemented a nationally representative MTHS in spring and summer 2007 to address this need. As part of an IDF grant, the World Bank also supported the design and implementation of the first Bulgaria MTHS, fielded by Bulgarian National Statistical Institute (NSI) in fall 2003. The 2007 MTHS replicates the 2003 survey, in terms of both survey design and thematic coverage to ensure their comparability. Both surveys were similarly administered with nearly identical questionnaires and sampling designs, and were based, respectively, on more than 3,100 and 4,300 households randomly selected via three-stage probability sampling procedure with stratification by urban and rural areas and by region. Using the micro-data from these two surveys, the present study seeks to underpin the policy discourse on poverty reduction and on social protection strengthening by providing a robust assessment of living conditions in Bulgaria.

## **Objective of the Study**

9. This report fills key gaps in the understanding of the state of welfare in Bulgaria and its future trends. It provides an assessment of changes in living standards since 2003, a period of sustained robust growth and intensive reform efforts leading to successful EU accession, and the current profile of the poor. The report quantifies the level of deprivation and the gains in poverty reduction and overall welfare improvements in different segments of Bulgaria's population. The study aims to support policy discourse on poverty reduction and strengthening of social

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<sup>3</sup> See, for example, World Bank (2005).

protection by providing a robust assessment of living conditions among various individual, household, geographic, and socioeconomic groups and of the actual and likely future effectiveness of current poverty reduction policies.

10. The report is organized as follows. Section 2 examines welfare trends between 2003 and 2007, decomposes changes in poverty, and links poverty outcomes to growth. In section 3, the poverty profile is presented based on the results of the 2007 MTHS data. Correlates and determinants of consumption expenditures are presented in section 4.

11. Annex A provides a detailed account of the concept of poverty and the methodology used for measuring poverty in this report. Annex B presents supplementary data.

## **2. TRENDS IN POVERTY between 2003 and 2007**

12. The dynamics of poverty on a number of dimensions are surveyed in this section to provide a vivid picture of developments in Bulgaria between 2003 and 2007. The 2003 and 2007 MTHS on which this report is based had similar sampling frames and nearly identical questionnaires, but the consumption aggregate for both survey years are converted into real consumption in 2007 prices by recalibrating the indicators in space and time. Both absolute and relative poverty measurement approaches currently in use in Bulgaria are presented for comparison over time and across different methodologies for measuring poverty.<sup>4</sup> The chosen poverty line, based on the 2007 survey, is then applied to these real values to infer poverty rates in both years.

13. When comparing the results of 2003 and 2007, an attempt is made to test whether the observed differences in poverty measures for the whole population and population subgroups are statistically significant. It is important to ascertain whether the observed movements in poverty are sufficient to draw robust conclusions about the dynamics of poverty. One way to do this is to check whether the differences in poverty over time pass the conventional levels of statistical significance and are not simply due to sampling error. Moreover, because poverty measures are sensitive to certain assumptions (e.g., on the choice of poverty line), the results are tested to see whether the poverty rankings obtained over time are robust to these assumptions.

### **Changes in Living Conditions between 2003 and 2007**

14. *There is strong evidence that the positive developments in Bulgaria have led to significant improvement in welfare.* Household consumption increased from BGN 339 in 2003 to BGN 410 in 2007 (in 2007 prices), a 21 percent increase in four years (Table 2.1). Rural areas and the poorest wealth groups experienced a higher improvement in well-being. Households in

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<sup>4</sup> The relative poverty measures are based on the methodology endorsed by the Laeken European Council in December 2001. The methodology is aimed at monitoring, in a comparable way, member states' progress toward the agreed EU objectives in the fight against poverty and social exclusion. It uses a relative threshold, fixed at 60 percent of the national annual median disposable income in each member state, as a poverty line. In contrast, the absolute poverty measure relies on an absolute poverty line based on the cost of basic needs.

the poorest quintile saw their consumption improve by more than 32 percent and those in the second and third quintile by more than 25 percent, compared with 13 percent for the richest quintile. Thus, economic growth was largely pro-poor, the poor having captured a slightly greater share of the growth. Similarly, income-based welfare measure also increased significantly, at a higher rate of 37 percent. The discrepancy between income and consumption expenditures declined between 2003 and 2007, suggesting a possible decline in the shadow economy and concomitant reluctance to declare incomes from such sources and the growing role of formal sector in generating livelihood. Mean per adult equivalent consumption expenditure was more than 20 percent larger than mean income per adult equivalent in 2003, compared with only 10 percent discrepancy in 2007.

**Table 2.1: Consumption and income increased significantly between 2003 and 2007.**

| Area                 | Mean per adult equivalent expenditure, real terms |      |            | Mean per-adult equivalent income, real terms |      |            |
|----------------------|---|------|------------|--|------|------------|
|                      | 2003  | 2007 | Change (%) | 2003   | 2007 | Change (%) |
| Urban                | 369   | 437  | 19         | 303  | 398  | 31         |
| Rural                | 273   | 344  | 26         | 195  | 298  | 52         |
| <i>Quintile</i>      |   |      |            |  |      |            |
| Quintile 1 (lowest)  | 133   | 176  | 32         | 84   | 113  | 36         |
| Quintile 2           | 221   | 278  | 26         | 160  | 221  | 38         |
| Quintile 3           | 291   | 365  | 25         | 228  | 314  | 38         |
| Quintile 4           | 382   | 475  | 24         | 319  | 427  | 34         |
| Quintile 5 (highest) | 669   | 758  | 13         | 557  | 771  | 39         |
| Total                | 339   | 410  | 21         | 269  | 369  | 37         |

Sources: MTHS 2003, 2007.

## Trends in Consumption Poverty

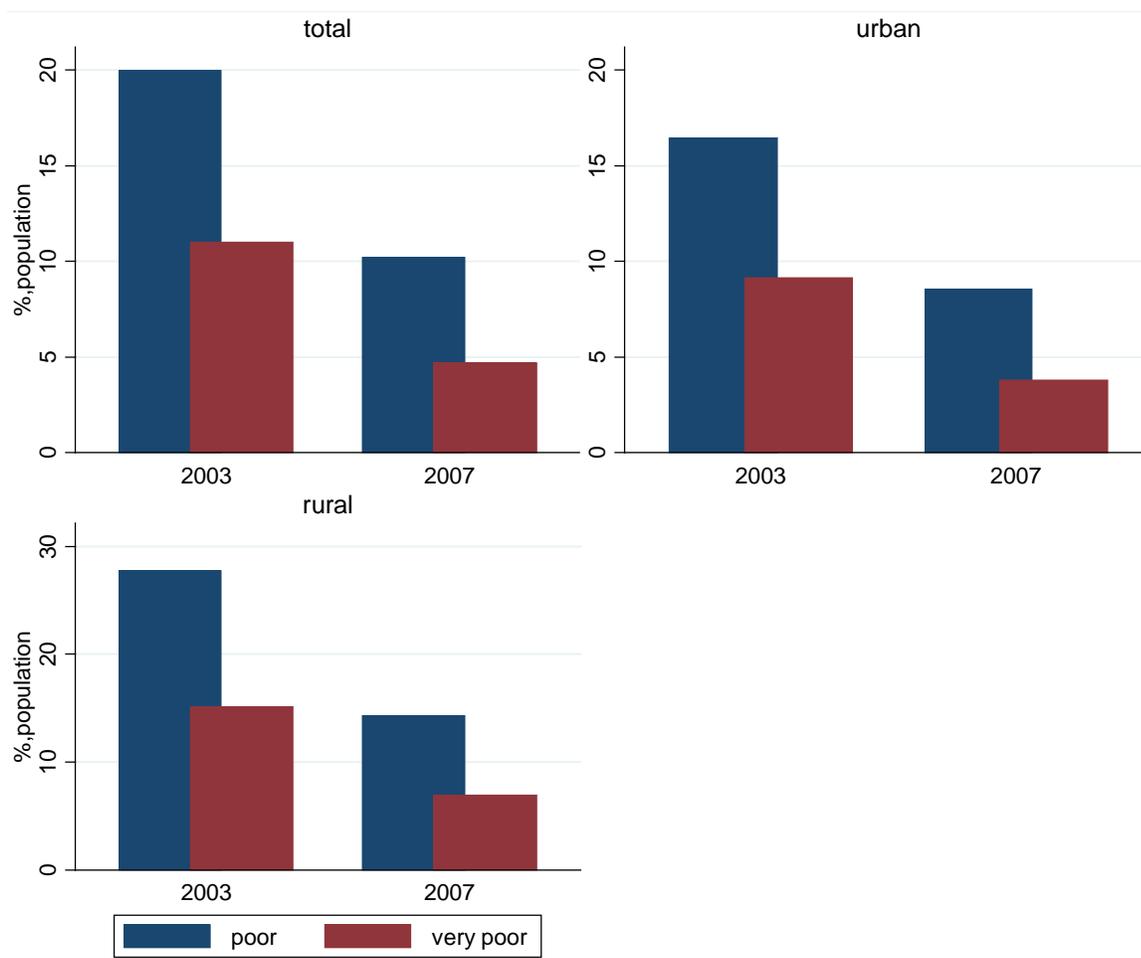
15. As a result of increased consumption and income, headcount poverty declined from about 20 percent in 2003 to 10.2 percent in 2007, essentially halving the incidence of absolute poverty.<sup>5</sup> More important, the data suggest an even faster decline in extreme poverty, with only 4.5 percent of the total population consuming less than BGN 145 per adult equivalent, compared with 11 percent in 2003. The improvement can be attributed to structural reforms, macroeconomic stability, and ensuing robust and sustained growth that after 1998 continuously lifted household consumption. The evidence from the household survey data points toward a strong positive correlation between economic growth and poverty reduction: More than 75 percent of the reduction in poverty between 2003 and 2007 was attributable to growth in per capita consumption. The decline in the unemployment rate and a low share of the working poor due to real wage increases also helped alleviate poverty. This was an outstanding achievement in the short but reform-intensive period before EU accession. Nationally, headcount poverty declined from 20 percent in 2003 to 10.2 percent in 2007, essentially halving the incidence of poverty (Figure 2.2 and table 2.1).

<sup>5</sup> An absolute poverty of BGN 185 per month per adult equivalent was used.

16. *There were larger declines in the poverty gap and poverty severity.* In 2007, 1 out of 10 Bulgarians was poor compared with 1 in 5 four years ago, and the poor are closer to the poverty threshold than they were in 2003. More important, extreme poverty declined faster than total poverty, with 4.5 percent of the total population consuming less than BGN 145 per adult equivalent, compared with 11 percent in 2003. Similarly, a larger decline occurred in the depth and severity of extreme poverty. Food poverty—a proxy for malnutrition—is almost nonexistent in Bulgaria. The MTHS 2007 suggested that only 0.7 percent of the population suffers from hunger, a substantial decline from 3.2 percent in 2003.

17. *The improvement can be attributed to structural reforms, macroeconomic stability, and the ensuing robust and sustained growth, which continuously lifted many households' consumption after 1998.* This was an outstanding achievement in such a short, yet reform-intensive period. Growth was accompanied by a reduction in unemployment and improvements in productivity and wages, which subsequently buoyed consumption for many households. Another important factor was the social protection system, particularly pension benefits, which kept a significant share of the population above the poverty line.<sup>6</sup>

**Figure 2.2: Consumption poverty in Bulgaria declined significantly between 2003 and 2007.**



Sources: MTHS 2003, 2007.

<sup>6</sup> The influence of Bulgaria's social assistance system on poverty is assessed in a separate report.

18. *Despite large declines in poverty nationwide, the rural population faces significantly higher poverty rates than do urban dwellers.* In 2007, the poverty incidence among rural residents was 6 percentage points higher than among urban residents, down from a differential of 13 percentage points in 2003. Although the decline in rural poverty was large, the relative gap has not narrowed. In fact, there was slight divergence in rural-urban living conditions. Although only a third of the population lives in rural communities, it accounts for almost 40 percent of the poor—a level that has stayed about the same between 2003 and 2007. The pace of decline in extreme poverty was much faster in urban areas than in rural. As a result, the incidence of extreme poverty in rural areas rose to about 152 percent of the national extreme poverty in 2007, compared with only 138 percent in 2003. The fact that unemployment is lower and participation and employment rates considerably higher in urban areas than in rural suggests concentration of recent economic growth in urban areas and its role in shaping poverty trends.

19. *The declines in poverty incidence, depth, and severity are statistically significant at high confidence level and are robust to choice of poverty line.* As seen in table 2.2, all poverty indexes declined between 2003 and 2007, and the decreases in all poverty measures and for all groups were statistically significant. Furthermore, the significant decline in poverty was robust to the choice of the poverty line, as the poverty incidence curves for 2007 are always below those for 2003 (Figure 2.3). The drop in poverty is illustrated by the downward shift in the cumulative density function, which shows the change in consumption across the survey years. The finding holds true for all regional and ethnic subgroups.

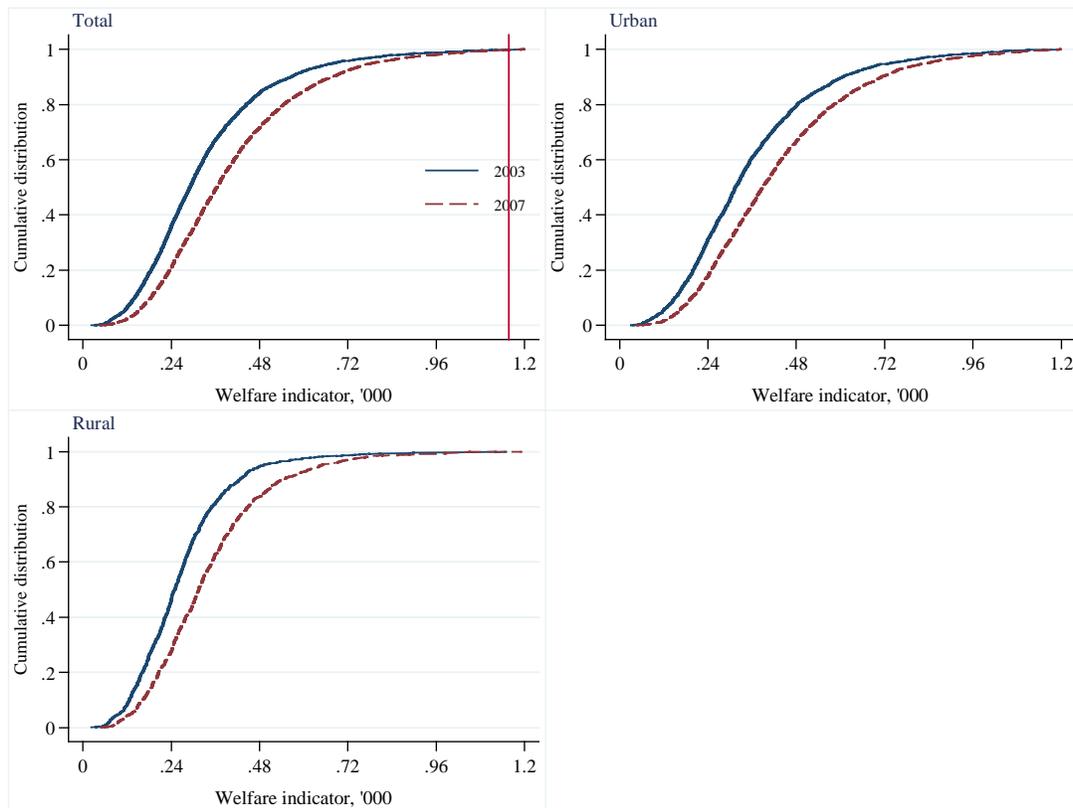
**Table 2.2: Poverty gap and severity declined between 2003 and 2007.**

| Item                          | Headcount rate(P0) |       |                     | Poverty gap(P1) |      |                    | Squared poverty gap(P2) |      |                    |
|-------------------------------|--------------------|-------|---------------------|-----------------|------|--------------------|-------------------------|------|--------------------|
|                               | 2007               | 2003  | Change              | 2007            | 2003 | Change             | 2007                    | 2003 | Change             |
| <i>Poverty line = BGN 185</i> |                    |       |                     |                 |      |                    |                         |      |                    |
| Urban                         | 8.34               | 16.48 | -8.14 <sup>a</sup>  | 1.82            | 4.64 | -2.82 <sup>a</sup> | 0.63                    | 1.96 | -1.34 <sup>a</sup> |
| Rural                         | 14.29              | 27.75 | -13.47 <sup>a</sup> | 3.58            | 7.66 | -4.08 <sup>a</sup> | 1.33                    | 3.19 | -1.86 <sup>a</sup> |
| Total                         | 10.06              | 19.98 | -9.92 <sup>a</sup>  | 2.33            | 5.58 | -3.25 <sup>a</sup> | 0.83                    | 2.34 | -1.51 <sup>a</sup> |
| <i>Poverty line = BGN 145</i> |                    |       |                     |                 |      |                    |                         |      |                    |
| Urban                         | 3.58               | 9.16  | -5.59 <sup>a</sup>  | 0.73            | 2.46 | -1.73 <sup>a</sup> | 0.25                    | 1.00 | -0.75 <sup>a</sup> |
| Rural                         | 6.91               | 15.16 | -8.25 <sup>a</sup>  | 1.63            | 3.97 | -2.33 <sup>a</sup> | 0.56                    | 1.60 | -1.04 <sup>a</sup> |
| Total                         | 4.54               | 11.02 | -6.48 <sup>a</sup>  | 0.99            | 2.92 | -1.93 <sup>a</sup> | 0.34                    | 1.19 | -0.85 <sup>a</sup> |

Sources: MTHS 2003, 2007.

a. Significant at 95 percent.

**Figure 2. 3: Poverty incidence curves show poverty declined between 2003 and 2007.**



Sources: MTHS 2003, 2007.

## Poverty and Growth

20. Poverty dynamics is roughly the result of two proximate causes: growth and change in the level of inequality. Changes in poverty might be due to the change in mean consumption (growth), change in welfare distribution (inequality), and interaction between the two. The growth-inequality decomposition (Ravallion and Datt 1992) reveals what the impact of growth would be on the poverty incidence, keeping inequality constant, and what the impact of wealth redistribution would be on changes in poverty between the two years if consumption remained constant.

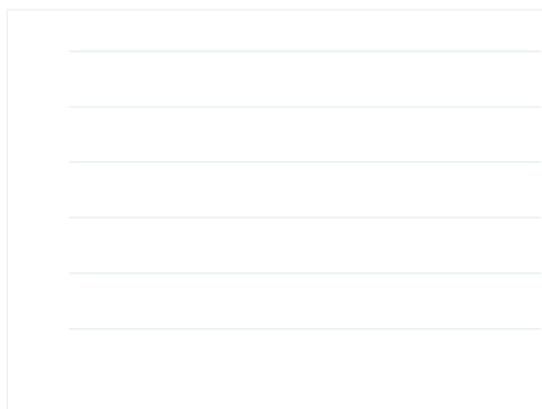
21. *More than 75 percent of the reduction in poverty between 2003 and 2007 is due to growth in per capita consumption.* Table 2.3 shows that most of the observed decline in poverty is attributable to growth in per capita consumption. The decomposition of changes in poverty incidence (headcount) reveals that both poor and rich benefited from growth over the period. In fact, with a negative redistribution component, the poor captured a slightly greater share of economic improvement. For example, if the distribution of consumption had not changed, the reduction in poverty incidence would have been lower by 2.5 percentage points. Moreover, the growth incidence curves provide another illustration of the pro-poor nature of growth in Bulgaria between 2003 and 2007 (Figure 2.4). Note that the pro-poor nature of growth was stronger in urban areas than rural.

**Table 2. 3: Growth and Redistribution Decomposition of Poverty Changes between 2003 and 2007**

|                               |             |             | <i>Change in incidence of poverty</i> |               |                       |                    |
|-------------------------------|-------------|-------------|---------------------------------------|---------------|-----------------------|--------------------|
|                               | <i>2003</i> | <i>2007</i> | <i>Actual change</i>                  | <i>Growth</i> | <i>Redistribution</i> | <i>Interaction</i> |
| <i>Poverty line = BGN 185</i> |             |             |                                       |               |                       |                    |
| Total                         | 20.0        | 10.1        | -9.9                                  | -7.4          | -2.5                  | 0.0                |
| Urban                         | 16.5        | 8.3         | -8.1                                  | -5.8          | -2.7                  | 0.3                |
| Rural                         | 27.8        | 14.3        | -13.5                                 | -12.2         | -1.7                  | 0.5                |
| <i>Poverty line = BGN 145</i> |             |             |                                       |               |                       |                    |
| Total                         | 11.0        | 4.5         | -6.5                                  | -4.4          | -2.2                  | 0.2                |
| Urban                         | 9.2         | 3.6         | -5.6                                  | -3.1          | -2.2                  | -0.3               |
| Rural                         | 15.2        | 6.9         | -8.2                                  | -7.5          | -1.1                  | 0.4                |

Sources: MTHS 2003, 2007.

**Figure 2. 4: Growth-incidence curves suggest growth was generally pro-poor.**



population shares across sectors), and interaction effects (correlation between sectoral gains and population shifts) (Table 2.4).

**Table 2. 4: Decomposition of Changes in Poverty Headcount between 2003 and 2007**

| Item                                     | Regional decomposition |            | Urban-rural decomposition |            |
|--|------------------------|------------|---------------------------|------------|
|  | Absolute change        | Change (%) | Absolute change           | Change (%) |
| Change in poverty (HC)                   | -9.9                   | 100        | -9.9                      | 100        |
| Total intrasectoral effect               | -10.0                  | 100.8      | -9.8                      | 98.7       |
| Population-shift effect                  | 0.1                    | -0.6       | -0.2                      | 2.4        |
| Interaction effect                       | 0.0                    | -0.2       | 0.1                       | -1.1       |
| <i>Intraregional effects<sup>a</sup></i> |                        |            |                           |            |
| North Central (NC)                       | -1.8                   | 17.8       | -5.7 <sup>b</sup>         | 59.4       |
| Northeast (NE)                           | -2.1                   | 20.7       | -4.2 <sup>c</sup>         | 39.6       |
| Northwest (NW)                           | -0.8                   | 8.1        |                           |            |
| South-Central (SC)                       | -2.9                   | 28.9       |                           |            |
| Southeast (SE)                           | -1.2                   | 11.9       |                           |            |
| Southwest (SW)                           | -1.3                   | 13.5       |                           |            |

Sources: MTHS 2003, 2007.

a. Based on the EU planning regions for Bulgaria.

b. Urban.

c. Rural.

23. *Regional poverty decomposition shows that about 29 percent of the total change in poverty results from poverty reduction in the SC Region, compared with only 12 percent in the SE Region (Error! Reference source not found.table 2.4).* About 59.4 percent of the total change in poverty resulted from poverty reduction in urban areas, compared with 39.6 percent for rural areas. The interaction effects were small but positive, suggesting that people who moved entered sectors where poverty was falling faster. Population shifts between regions explained only two thirds of 1 percent of the total change in poverty. The effects of population shifts between urban and rural areas were slightly higher and explained about 2.4 percent of the total change in poverty. The fact that both regional and urban-rural population shift effects were so small compared with intrasectoral effects suggests relative immobility of people between the six regions or from urban to rural areas or vice versa. This may reveal barriers to mobility that either needs to be removed if the poor are to benefit from growth in the more promising areas, or that interventions should be more closely trained on generating growth in the places where the poor live.

### Trends in Inequality

24. *Inequality in Bulgaria fell appreciably between 2003 and 2007 (Table 2.5).* The Gini coefficient<sup>7</sup> of per adult equivalent consumption expenditure declined from 0.313 in 2003 to

<sup>7</sup> The Gini coefficient is the most commonly used measure of inequality. The coefficient varies between 0, which reflects complete equality, and 1, which indicates complete inequality (one person has all the income or consumption, no one else has any income).

0.283 in 2007 nationwide, a nearly 10 percent reduction in just four years. Other measures of inequality such as decile dispersion ratio, which presents the ratio, for example, of the average consumption of the richest 10 percent of the population divided by the average consumption of the bottom 10 percent, also show a decline in inequality.

25. *The decline in inequality is a welcome development with important implications for growth and social cohesion.* Inequality considerations are important to policymakers, especially in countries that underwent transition from a planned to a market economy (Ferreira 1999; Mitra and Yemtsov 2006; Sukiassyan 2007). The distribution of consumption and the associated level of inequality in a country, region, or population group is an important dimension of welfare because most individuals or households pay attention to their relative position in society. In addition, the overall level of inequality in a country, region, or population group has implications for growth and social cohesion. It is noteworthy that much of the improvement in inequality took place in urban areas where inequality declined by nearly 11 percent over the period.

**Table 2. 5: Inequality in Bulgaria declined between 2003 and 2007**

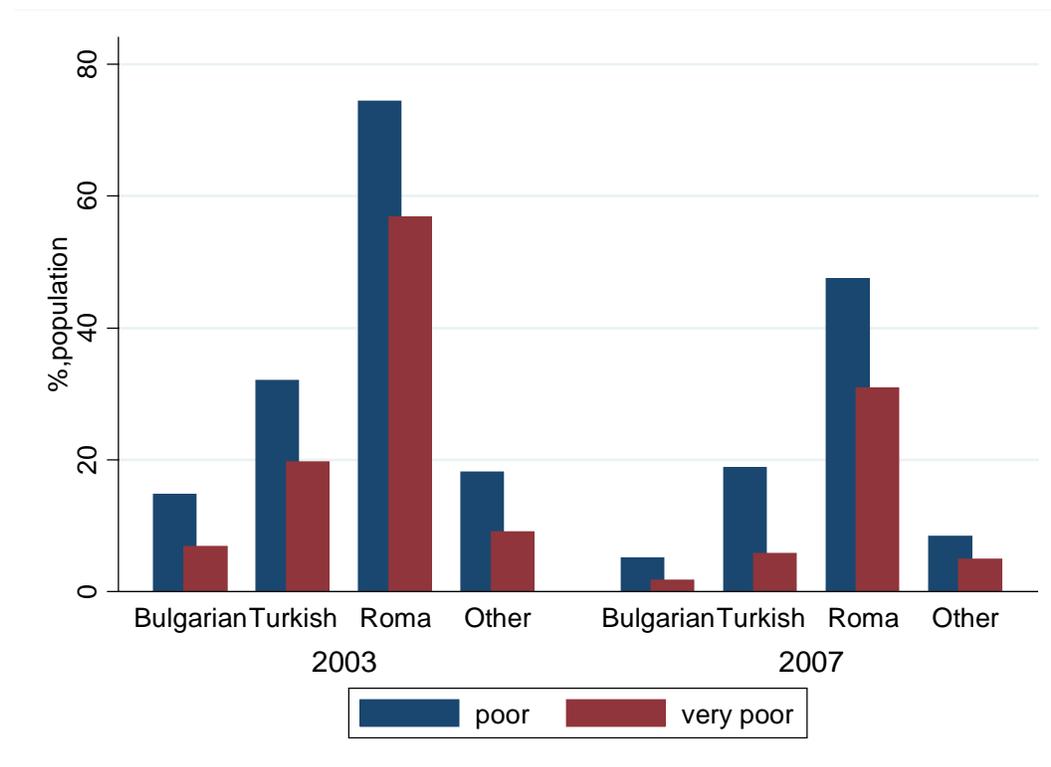
| <i>Total</i> | <i>Bottom half of the distribution</i> |                | <i>Upper half of the distribution</i> |                | <i>Interquartile range</i> | <i>Tails</i>   | <i>Gini</i> |
|--------------|--|----------------|---------------------------------------|----------------|----------------------------|----------------|-------------|
|              | <i>p25/p10</i>                         | <i>p50/p25</i> | <i>p75/p50</i>                        | <i>p90/p50</i> | <i>p75/p25</i>             | <i>p90/p10</i> |             |
| 2007         | 1.39                                   | 1.43           | 1.39                                  | 1.89           | 1.99                       | 3.76           | 28.30       |
| 2003         | 1.46                                   | 1.42           | 1.42                                  | 1.98           | 2.02                       | 4.11           | 31.30       |
| <i>Urban</i> |  |                |                                       |                |                            |                |             |
| 2007         | 1.39                                   | 1.44           | 1.39                                  | 1.87           | 2.00                       | 3.74           | 28.10       |
| 2003         | 1.47                                   | 1.44           | 1.44                                  | 1.97           | 2.06                       | 4.16           | 31.45       |
| <i>Rural</i> |  |                |                                       |                |                            |                |             |
| 2007         | 1.42                                   | 1.37           | 1.33                                  | 1.75           | 1.82                       | 3.42           | 26.45       |
| 2003         | 1.42                                   | 1.41           | 1.31                                  | 1.72           | 1.84                       | 3.44           | 27.52       |

Sources: MTHS 2003, 2007.

## **Ethnic Dimensions**

26. *Although poverty declined significantly nationwide and among all population subgroups, large and significant ethnic disparities still exist.* Some groups benefited more than others from the robust growth experience. Roma, almost half of them living below poverty line in 2007, continue to face the highest poverty incidence, despite this was a substantial decline from nearly three quarters of them living in poverty in 2003 (Figure 2.5). The Roma's risk of poverty is much higher not only because of their disproportionately disadvantageous starting position in 2003 but also because of the below average decline in their poverty rates compared with the other ethnic groups. The rate of decline in poverty among the Roma was 36 percent, lower than the 50 percent decline for the nation as the whole. Despite significant improvement in their living standards, the Roma were still much poorer in 2007 than ethnic Bulgarians, ethnic Turks, and other ethnic groups were in 2003.

**Figure 2. 5: The gap between the Roma and other minority ethnic groups widened between 2003 and 2007.**



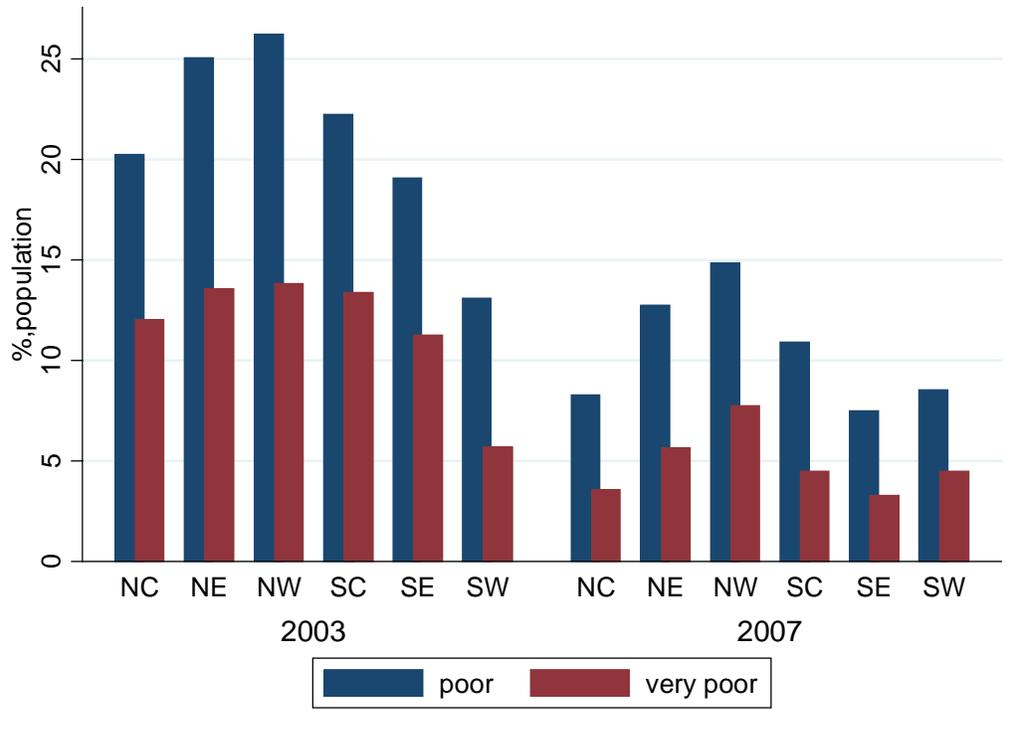
Sources: MTHS 2003, 2007.

27. *Between 2003 and 2007, the Roma share of the poor population almost doubled to more than 40 percent. A similar account is also seen among the very poor; where Roma accounted for almost two thirds of the people living in extreme poverty in 2007, up from about 32 percent in 2003. These numbers are disproportionately large, considering that the Roma make up less than 5 percent of the population, according to the 2001 Population Census. Ethnic Bulgarians comprised a smaller proportion of the poor in 2007 than in 2003, which reduced their share among the poor and very poor by more than 24 percent and 26 percent, respectively.*

### **Regional Dimensions**

28. *Although the six EU planning regions of Bulgaria are an artificial construct, there is considerable diversity among the regions. Based on these planning designations, poverty declined about 60 percent in the NC and SE regions, where poverty declined fastest. The SW Region experienced a poverty reduction of 40 percent from its 2003 level (Figure 2.6). However, the disparity in the deprivation level among the regions declined, suggesting a welcome decrease in inequality and convergence in living standards among the six EU planning regions. Unemployment in the NW and NE Regions was far worse than elsewhere and may have played a role in their poverty.*

**Figure 2.6: Poverty is still high in the north despite an appreciable decline.**



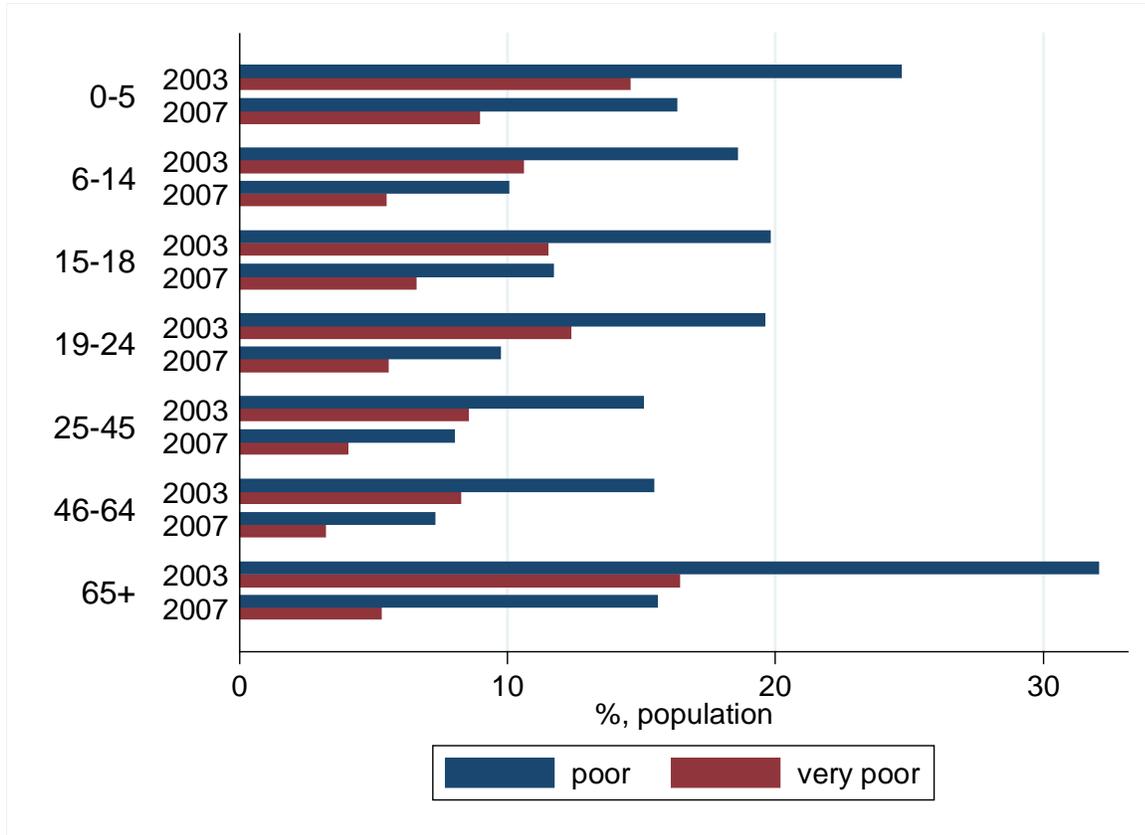
Sources: MTHS 2003, 2007.

29. *The NW Region, with almost 15 percent of the population living in poverty in 2007, still has the highest poverty and extreme poverty rates in Bulgaria.* Despite a decline from more than 25 percent in 2003, poverty in the NW Region is still almost 50 percent higher than the national average. The SE Region not only has the lowest incidence of poverty (7.5 percent), but the proportion of poor living in the Southeast also declined by 4.1 percent, surpassing the 2.6 percent decline in population share between 2003 and 2007.

### Demographic Dimensions

30. *Across all age groups, poverty declined significantly between 2003 and 2007* (Figure 2.7). Among age groups, poverty reduction was largest in the oldest age group (65+ years) which declined by more than 16 percentage points. Similar declines were also evident among the very poor with the oldest age group again experiencing the largest decrease at more than 11 percentage points. In 2007, the group with the highest extreme poverty incidence rate shifted from the 65+ age group to children in the 0-5 age group, with almost 9 percent of children under 6 living in extreme poverty. In rural areas, the incidence of poverty was highest among children under 6 in both 2003 and 2007, while the same holds true for the oldest age group in urban areas.

**Figure 2.7: The very young and the elderly are the poorest demographic groups.**



Sources: MTHS 2003, 2007.

31. *The very young and the very old continue to be overrepresented among the poor and very poor, with the proportion of the poor in the youngest age cohort growing faster than their share in the population is growing (Figure 2.7). Between 2003 and 2007, the proportion of the youngest age cohort (0–5 years) in the population of poor increased by about 2 percentage points, while its share in the total population increased by only half of 1 percentage point. This discrepancy was more pronounced among the extremely poor where the population of those in the youngest age group (0–5 years) grew by almost 3 percentage points during the same period. Thus, despite decreasing poverty rates across all age cohorts, significant shifts were evident in the age distribution of the poor and very poor, especially among 5-year-olds and under.*

32. *The key contributing factor for higher than national average risk of poverty among children is the disproportionately high poverty among Roma children. Although poverty declined among children of all ethnic backgrounds, child poverty became more concentrated among the Roma. In 2007, though accounting for less than 24 percent of Bulgaria’s children under 6 years of age, the Roma children contributed about 78 percent of total child poverty (Table 2.6).*

**Table 2.6: Poverty and Bulgaria's Roma Children**

| Ethnic group | 2003                            |  | 2007                            |  |
|--------------|---------------------------------|--|---------------------------------|--|
|              | Child (age<6) poverty headcount | Contribution to child poverty (% of total) | Child (age<6) poverty headcount | Contribution to child poverty (% of total) |
| Bulgarian    | 14.2                            | 44.0                                       | 1.2                             | 4.4  |
| Turkish      | 39.5                            | 18.0                                       | 20.8                            | 16.7                                       |
| Roma         | 68.6                            | 37.0                                       | 51.5                            | 77.8                                       |
| Other        | 32.0                            | 1.0  | 5.9                             | 1.1  |
| Total        | 24.5                            | 100  | 12.6                            | 100  |

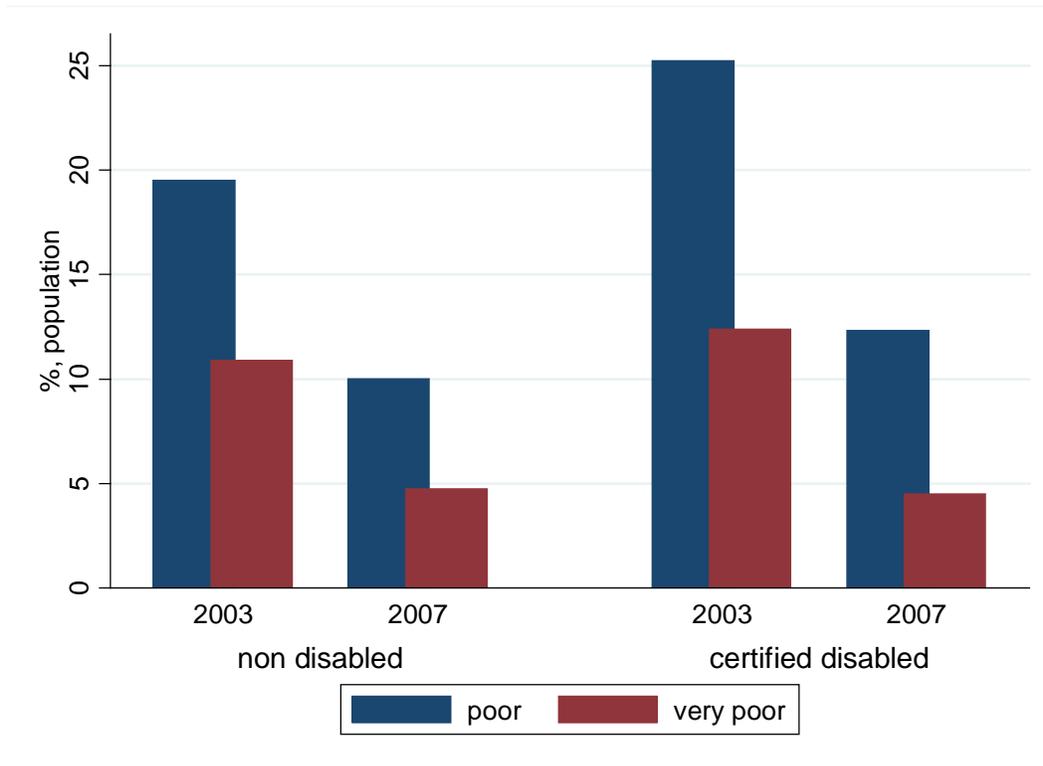
Source: MTHS data 2003 and 2007.

a. Classification of ethnic groups is based on self-identification of respondents to a household survey question on their ethnicity.

### Poverty Dynamics among People with Disabilities

33. *The poverty trend between 2003 and 2007 suggests that living conditions of the disabled greatly improved, far more so than for the general population. The poverty headcount declined by more than 100 percent for the disabled (Figure 2.8). One of the most revealing poverty trends for a country's living conditions is based on key livelihood features such as people with disabilities. In Bulgaria, more than 8 percent of the population was certified as disabled by labor and medical experts, according to the 2007 MTHS. In 2007, the poverty headcount among disabled was a little more than 12.3 percent compared with 10.0 percent for nondisabled. The corresponding rates in 2003 were 25.2 percent and 19.5 percent, respectively. Extreme poverty declined more sharply among the disabled than the general population, from 12.4 percent in 2003 to 4.5 percent in 2007, slightly below the 4.7 percent rate for the population overall.*

**Figure 2.8: Living condition for the disabled improved significantly.**

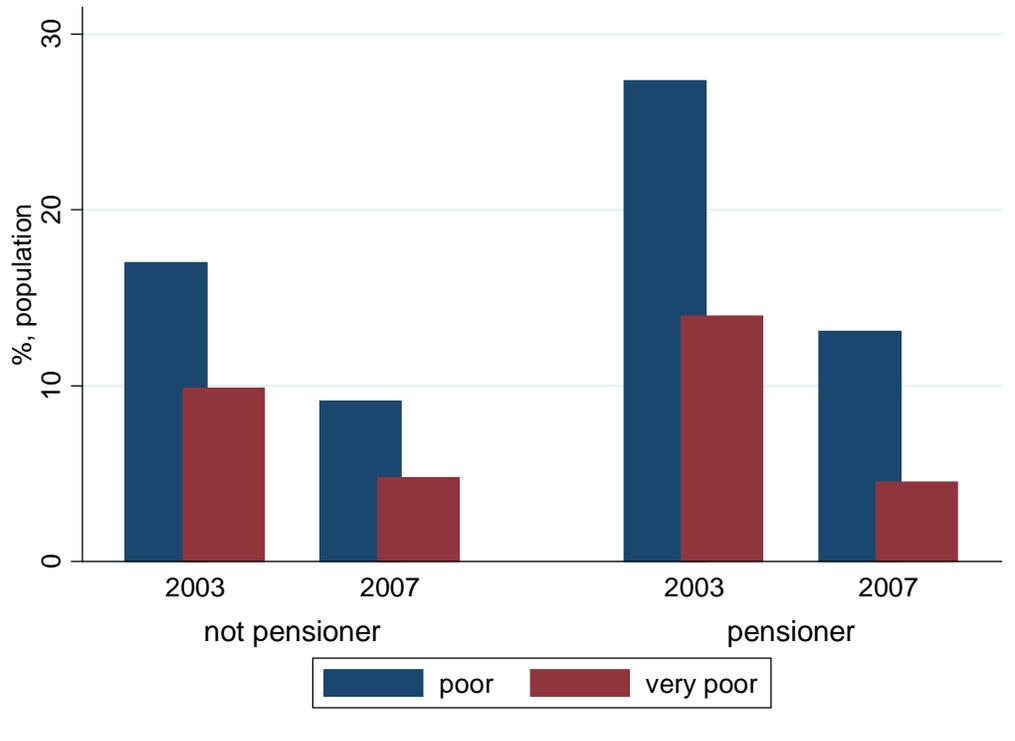


Sources: MTHS 2003, 2007.

### Poverty Dynamics among Pensioners

34. *Living condition for pensioners also improved more than those of the general population. The extreme poverty headcount declined by more than 68 percent for pensioners (Figure 2.9), compared with 50 percent for nonpensioners. In Bulgaria, more than 27 percent of the population reported receiving pension income, including retirement, social, legacy, and other forms of pensions, according to the 2007 MTHS. In 2007, the poverty headcount among pensioners was about 13 percent compared with 9 percent for nonpensioners. These figures compare, respectively, with 27 percent and 17 percent in 2003. Extreme poverty declined more strongly for pensioners than the general population, as previously mentioned and shown in Figure 2.8.*

**Figure 2.9: Extreme poverty declined more among pensioners than among the rest of the population.**



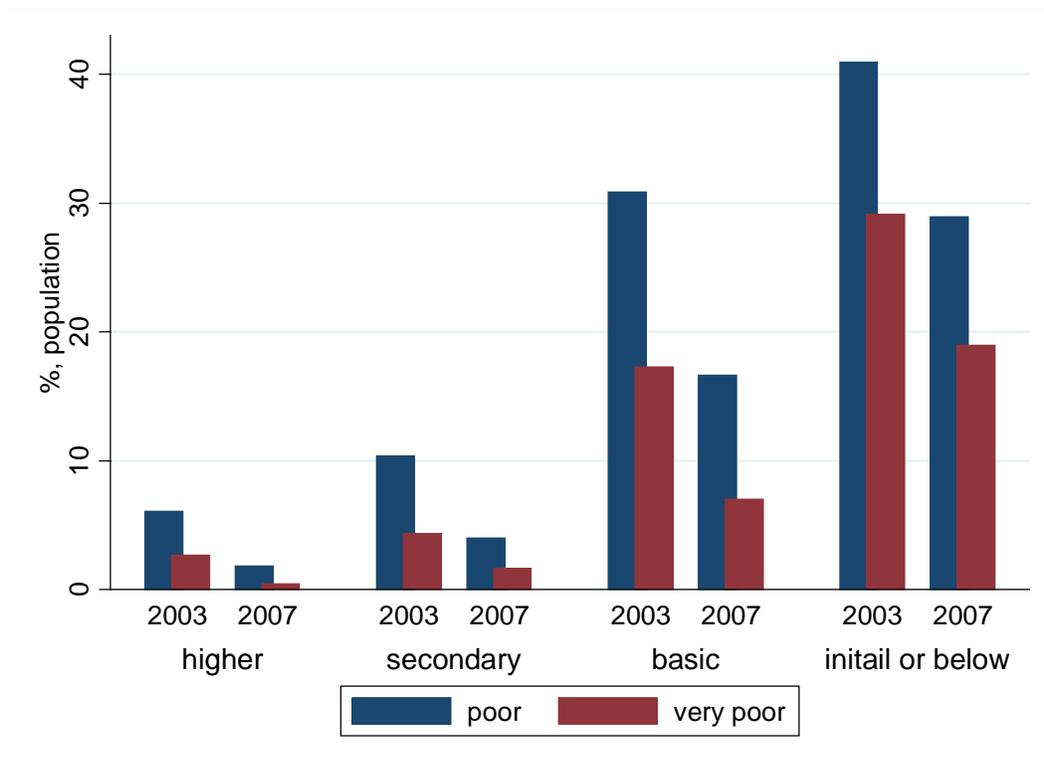
Sources: MTHS 2003, 2007.

### Education and Poverty Dynamics

35. *The poverty incidence decreased the least for people with low educational attainment.* Although the poverty incidence was halved nationally, it decreased by only 25 percent among those with initial or no education (Figure 2.10). In 2007, individuals with less than a secondary education represented 37 percent of the population aged 18 years and above but made up nearly 80 percent of the poor. Poverty among individuals with less than a secondary education was twice the national average and seven times the poverty rate of individuals with a secondary or higher education.

36. *Individuals with less than secondary education are twice as likely to be unemployed as those with higher educational attainment.* While only a quarter of preschool-age children from poor households reported attending preschool in 2007, the corresponding figure for children from nonpoor households was 50 percent. Similarly, primary and secondary school attendance among children from poor households was considerably lower than for children from nonpoor households. This phenomenon suggests a vicious circle of poverty and vulnerability: the less-educated face the greatest obstacles in sending their children to school and their children later have enormous difficulties finding a well-paid job.

**Figure 2.10: The uneducated benefited the least from growth.**

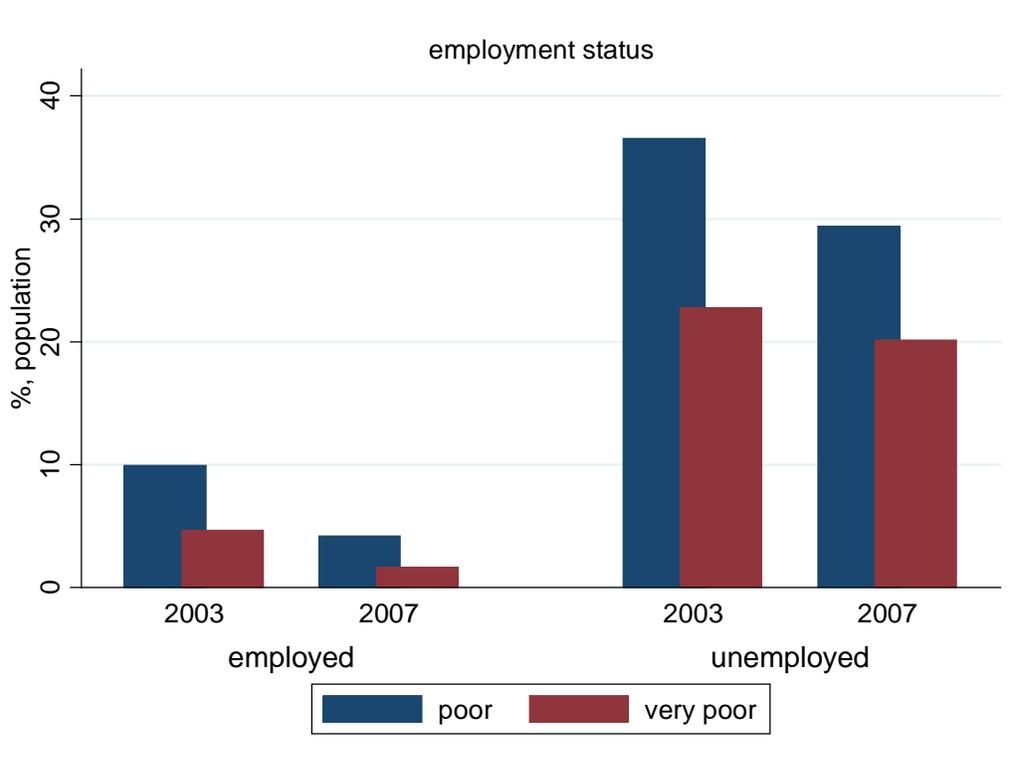


Sources: MTHS 2003, 2007.

### Poverty Dynamics and Labor Market Participation

37. *A look at poverty level and the employment status shows that the unemployed are at much higher risk of poverty than anyone else in the labor market. One out of three unemployed individuals faced consumption below the poverty line in 2007. Despite a halving of poverty among the general population, poverty among the unemployed declined only modestly, from 40 percent in 2003 to 32 percent in 2007 (Figure 2.11). Though a significant drop, it fell far short of the average national decline. There was a gap of 24 percentage points between poverty rates among the unemployed and everyone else, suggesting that unemployed were at very high risk and that they were not equally benefiting from economic growth, for example, through unemployment benefit schemes.*

**Figure 2.11: The unemployed face the highest risk of poverty among those in the labor force.**

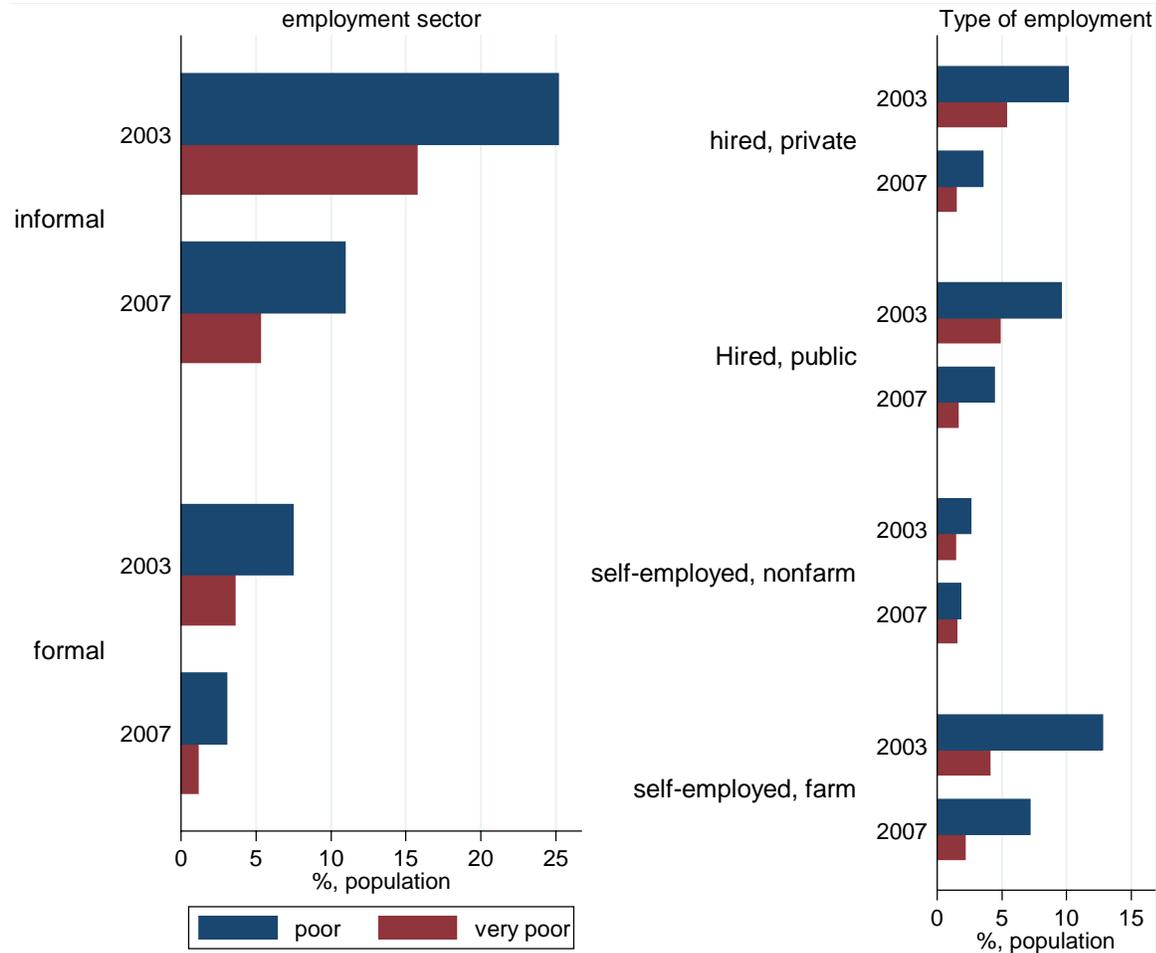


Sources: MTHS 2003, 2007.

38. *The reduction in poverty was lower among public sector employees than among private sector employees.* This finding supports the expectation that the private sector produces more and better-paid jobs (Figure 2.12). In 2003, the incidence of poverty among private and public sector workers was about the same. By 2007, private employees enjoyed a higher standard of living (Figure 2.10). The share of hired labor in the private sector expanded substantially from 44 percent in 2003 to 74 percent in 2007. Hired labor employed by the public sector declined from 28 percent in 2003 to 26 percent in 2007.

39. *The self-employed fared significantly better than all other classes of employed persons.* Self-employment in farming, however, was the least lucrative of all types of self-employment, but its role in employment declined by more than 5 percentage points between 2003 and 2007. Individuals working in the formal sector faced a much lower risk of poverty than did those eking out a living in the informal sector (Figure 2.12). Poverty declined appreciably in both the formal and informal sectors.

**Figure 2.12: Poverty is higher in informal sector and self-employment in farming.**



### Nonmonetary Dimensions of Poverty Dynamics

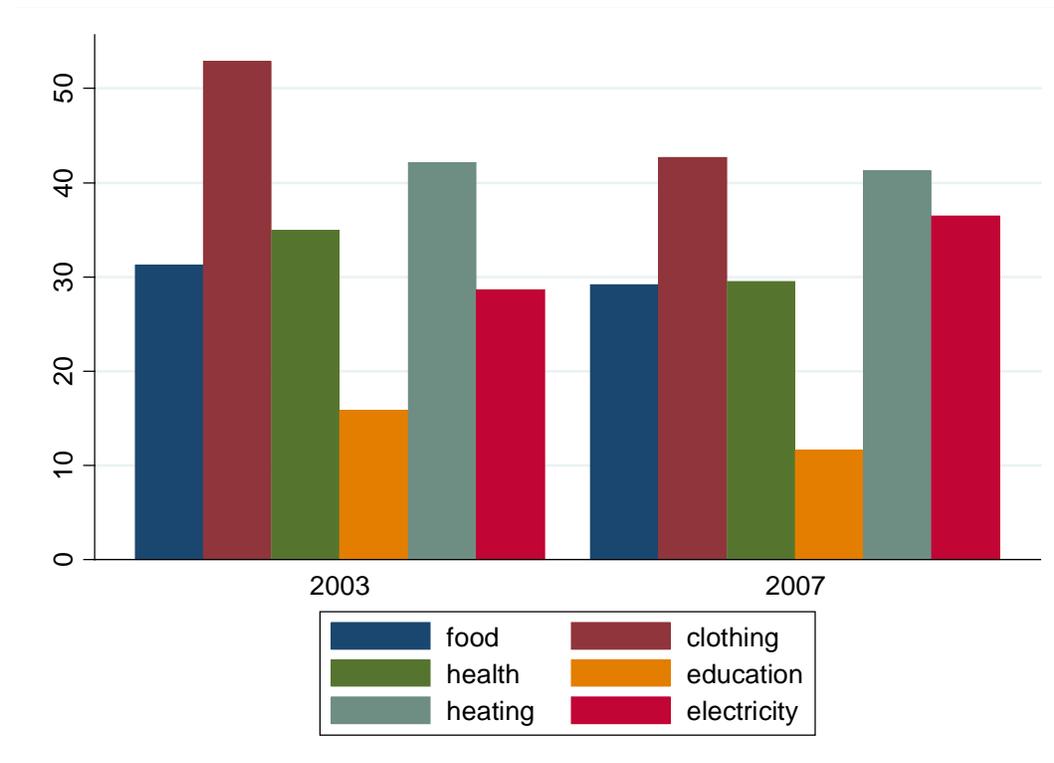
40. *Poverty is related not only to insufficient income or consumption but also to insufficient outcomes with respect to health, nutrition, and literacy and to deficient social relations, insecurity, low self-esteem, and powerlessness.* In this subsection, the trends in monetary poverty between 2003 and 2007 are contrasted with the trends in nonmonetary dimensions of well-being such as housing amenities, ownership of essential assets, subjective perceptions of well-being, and attributes of individual deprivation such as low educational attainment, poor health, and individual employment status.

41. *Difficulties meeting certain needs.* The proportions of individuals reporting difficulties meeting certain basic needs were significantly larger than those living below the poverty line. Moreover, there was no appreciable decline in the proportion of people with these experiences between 2003 and 2007. In fact, the share of people reporting difficulties meeting, for example, electricity needs, worsened between 2003 and 2007 (Figure 2.13).

42. *The proportions of the population that reported some difficulty meeting food and heating needs have remained practically unchanged.* Obtaining education and health care and meeting

clothing needs, however, was easier in 2007 than in 2003. While these self-reported outcomes can be very subjective, they may point toward areas of basic needs where further analysis and policy attention are imperative.

**Figure 2.13: Proportion of the population reporting difficulties meeting various needs, 2003 and 2007**

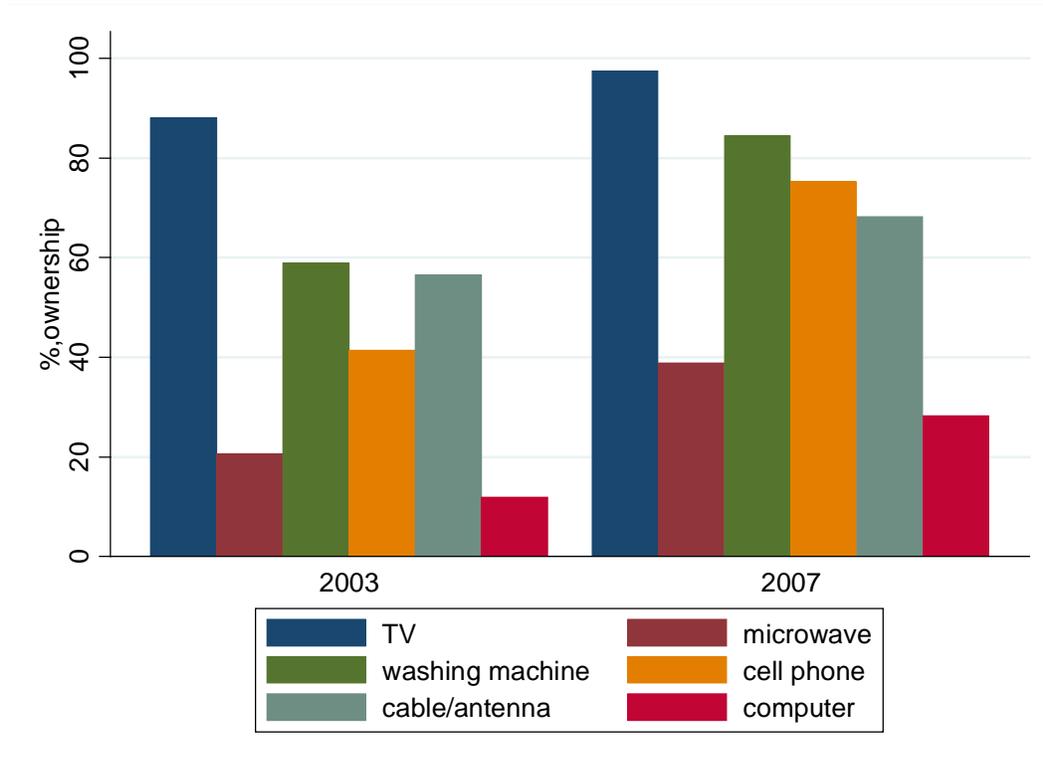


Sources: MTHS 2003, 2007.

43. *Ownership of durable goods.* Accumulation and increased ownership of durable goods are important indicators of improvement in a country’s overall welfare.<sup>8</sup> Individuals and households usually buy more durable goods and other long-term assets than basic consumption commodities as they and their national economy become more affluent. Figure 2.14 shows the changes in the rate of ownership of selected durable goods between 2003 and 2007. As expected, there was an increase in ownership of durable goods such as color television, computers, washing machines, and other everyday-use items. Rural areas appeared to be catching up in the ownership of these goods, as their rate of increase ownership increased at a faster pace than ownership in urban areas. Here again, the rate of increase in the ownership of durable goods was less than commensurate with the decline in monetary poverty rates described earlier.

<sup>8</sup> For a detailed analysis of the dynamics of ownership of durable goods in Bulgaria between 1995 and 2003, see Ivaschenko and Ersado (2007).

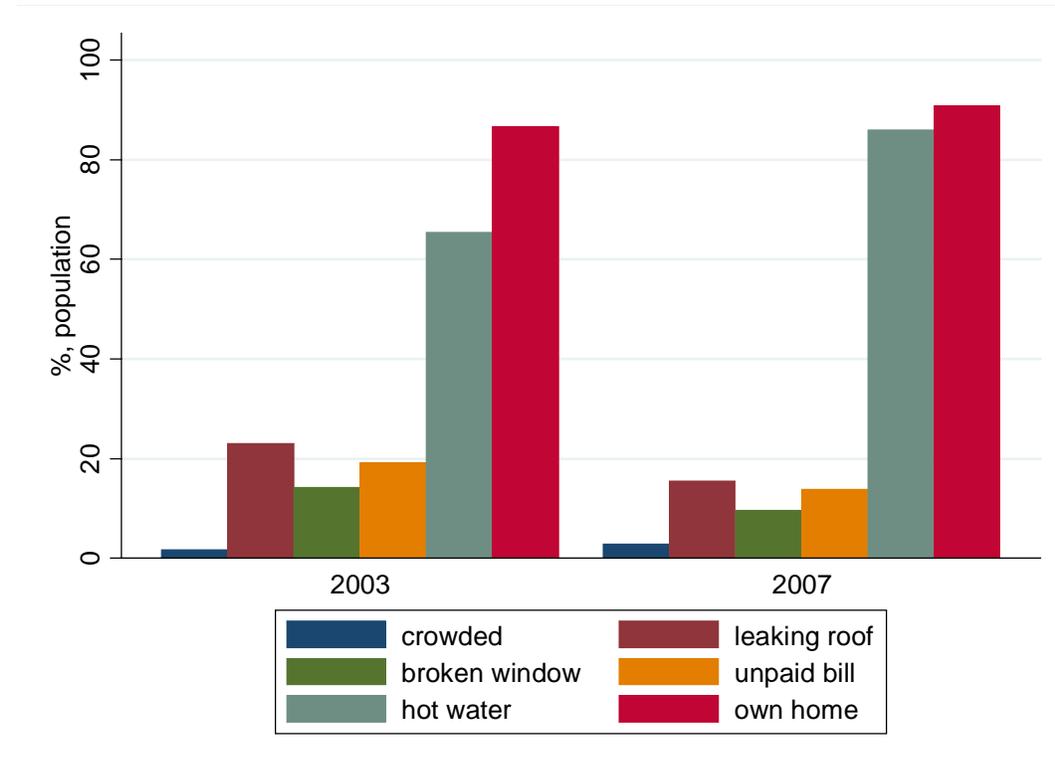
**Figure 2.14: Most Bulgarians reported increases in ownership of durable goods.**



Sources: MTHS 2003, 2007.

44. *Housing poverty.* Housing poverty may be assessed from different vantage points. Used here are crowding (the number people sharing one room), living in a house with a leaky roof and broken windows, unpaid bills, availability of hot water, and ownership of dwelling place. Figure 2.15 shows changes in these aspects of housing for all, urban and rural residents of Bulgaria between 2003 and 2007. Most of these important nonmonetary dimensions of living conditions improved between the two survey years, but less dramatically than consumption poverty. The proportion of people living in a house with a leaky roof declined by more than 7 percentage points; with broken windows, by 5 percentage points. Home ownership increased by 5 percentage points; access to hot water, by more than 20 percentage points. One exception is crowding, as seen in the proportion of households sharing a room with three or more people, which worsened slightly in 2007 compared with 2003. Although these measures can be arbitrary, they are nonetheless indicative of housing conditions and trends in Bulgaria.

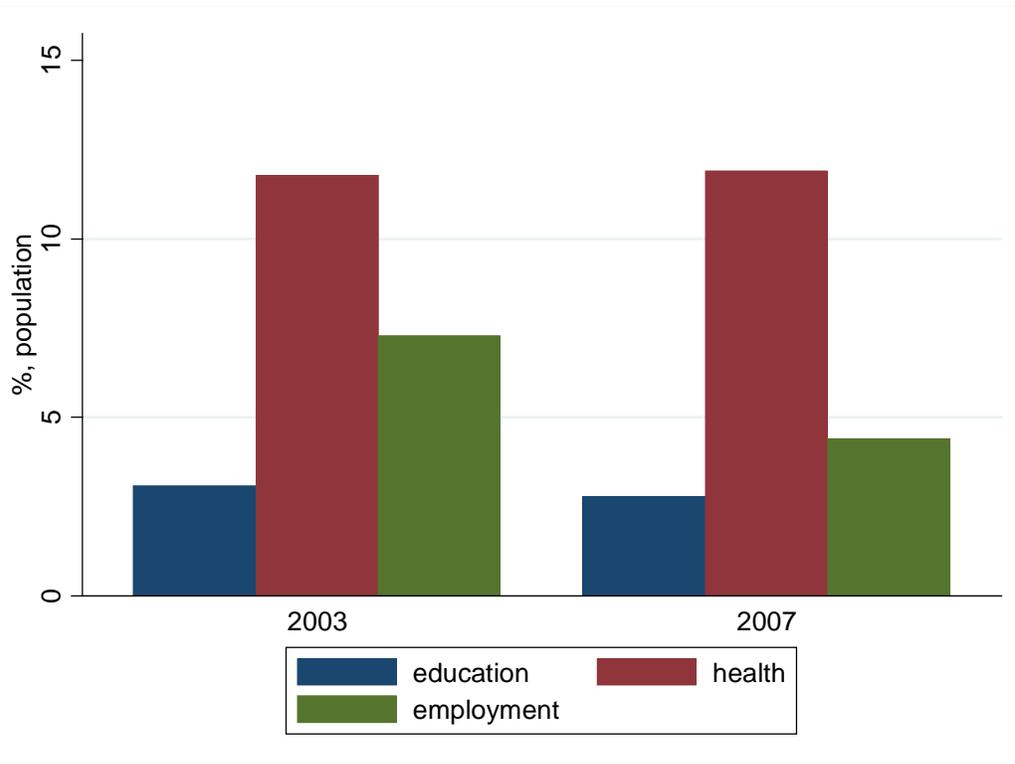
**Figure 2.15: Housing conditions generally improved between 2003 and 2007.**



Sources: MTHS 2003, 2007.

45. *Individual dimensions of nonmonetary poverty.* As indicators of individual dimensions of nonmonetary poverty, three measures are used: the proportion of adults 18 and older with incomplete initial or lower education (*education poverty*), the share of individuals with own perception of poor health (*health poverty*), and inability to find a job despite looking for one (*employment poverty*). There has been little improvement in education and health poverty measures. According to this measure, education poverty, already low (3.1 percent) in 2003, declined to 2.8 percent in 2007 (Figure 2.16). Health poverty, however, was greater than consumption poverty: close to 12 percent of the population reported living in poor health with no change between 2003 and 2007. However, employment poverty declined significantly from 10.5 percent in 2003 to 6.2 of individuals of working age being unemployed in 2007.

**Figure 2.16: Individual dimensions of poverty dynamics**



Sources: MTHS 2003, 2007.

### **3. POVERTY PROFILE, 2007**

46. The poverty profile discusses the characteristics of the poor and the nonpoor to shed light on correlates of poverty. Because poverty is a multidimensional phenomenon, the poverty profile of Bulgaria looks at various aspects and decomposes poverty incidence by region, major economic activities, and demographic and other characteristics. This section attempts to answer questions such as: how many Bulgarians consumed less than the social minimum represented by the poverty line in 2007, who were they, and where did they live?

#### **Stylized Facts**

47. First, some basic facts are presented about poverty in Bulgaria in 2007. Table 3.1 is a snapshot of poverty in 2007 as well as the number of people living below the upper and lower poverty lines. From table 3.1, the following stylized facts emerge:

*About 1 in 10 Bulgarians, close to three quarters of a million people, lived in poverty in 2007, each consuming BGN 185 or less per month per adult equivalent. Of this group, nearly a quarter of a million people, a little less than half of the poor were very poor, consuming no more than BGN 145 per month per adult equivalent.*

On average, the consumption of the poor was about BGN 43, about 23 percent lower than the poverty line, and that of the very poor was about BGN 32, 22 percent lower than the extreme poverty line. Both figures signal deep poverty with most of the poor and the very poor relatively far below their respective poverty lines.

Sofia and the regional centers enjoyed the lowest headcount poverty rate in Bulgaria. Poverty was much higher in the country than in cities urban. Municipal centers and small towns were significantly poorer than the capital and regional cities, highlighting the inverse relationship between poverty urbanization in Bulgaria. The rural areas were twice as poor as the capital. The shares of poor and very poor in rural communities were significantly higher than their corresponding share of the population.

**Table 3. 1: Consumption Poverty (Headcount) in Bulgaria, 2007**

| <i>Item</i>         | <i>Bulgaria</i>        | <i>Sofia—<br/>Capital</i> | <i>Regional<br/>centers</i> | <i>Municipal<br/>centers</i> | <i>Communities<br/>(mostly rural)</i> |
|---------------------|------------------------|---------------------------|-----------------------------|------------------------------|---------------------------------------|
| Population          | 7,322,858 <sup>a</sup> | 1,019,342                 | 2,687,489                   | 1,432,351                    | 2,184,409                             |
| Poor                | 10.2                   | 7.1                       | 7.6                         | 11.1                         | 14.4                                  |
| Very poor           | 4.7                    | 3.2                       | 3.9                         | 4.1                          | 6.8                                   |
| Share of population | 100                    | 13.9                      | 36.7                        | 19.6                         | 29.8                                  |
| Number of poor      | 746,932                | 72,373                    | 204,249                     | 158,991                      | 314,555                               |
| Share of poor       | 100                    | 9.7                       | 27.3                        | 21.3                         | 42.1                                  |
| Number of very poor | 344,174                | 32,619                    | 104,812                     | 58,726                       | 148,540                               |
| Share of very poor  | 100                    | 9.5                       | 30.5                        | 17.1                         | 43.2                                  |

Source: MTHS, 2007.

a. July 2007 estimate.

## Poverty Depth and Severity

48. To gauge the depth and severity of poverty, simply estimating the number of poor people is not enough. Additional insights can be gained by assessing how poor and how disparate are the individuals living below the poverty line. The poverty depth and severity indexes measure the consumption shortfalls of the poor from the poverty line. This analysis shows that the poverty gap and its severity are highest in rural areas followed by municipal centers where most small towns are located Table 3.2. The poverty gap is more than three times larger in rural areas than in Sofia, the capital city. The per adult equivalent poverty gap index for Bulgaria in 2007 was 2.3 percent, resulting in an estimated average deficit of BGN 43 a month per adult equivalent and an aggregate yearly poverty gap of about half of 1 percent of the 2007 GDP. This implies that, with perfect targeting, Bulgaria would need to allocate about BGN 221.2 million to eradicate poverty and that the bulk of it should go to rural communities.

**Table 3. 2: Poverty Depth and Severity in Bulgaria, 2007**

| <i>Item</i>                                   | <i>Bulgaria</i> | <i>Sofia</i> | <i>Regional<br/>centers</i> | <i>Municipal<br/>centers</i> | <i>Communities<br/>(mostly rural)</i> |
|---|-----------------|--------------|-----------------------------|------------------------------|---------------------------------------|
| Poverty gap                                   | 2.3             | 1.1          | 1.8                         | 2.4                          | 3.5                                   |
| Poverty severity                              | 0.8             | 0.3          | 0.6                         | 0.8                          | 1.3                                   |
| Average deficit of the poor,<br>BGN per month | 43              | 34           | 44                          | 39                           | 46                                    |
| Aggregate poverty gap,                        | 221.2           | 17.0         | 61.6                        | 43.4                         | 99.6                                  |

|   |      |      |      |      |      |
|---|------|------|------|------|------|
| millions BGN per year                   |      |      |      |      |      |
| Aggregate poverty gap as percent of GDP | 0.43 | 0.03 | 0.12 | 0.08 | 0.19 |

Source: MTHS 2007.

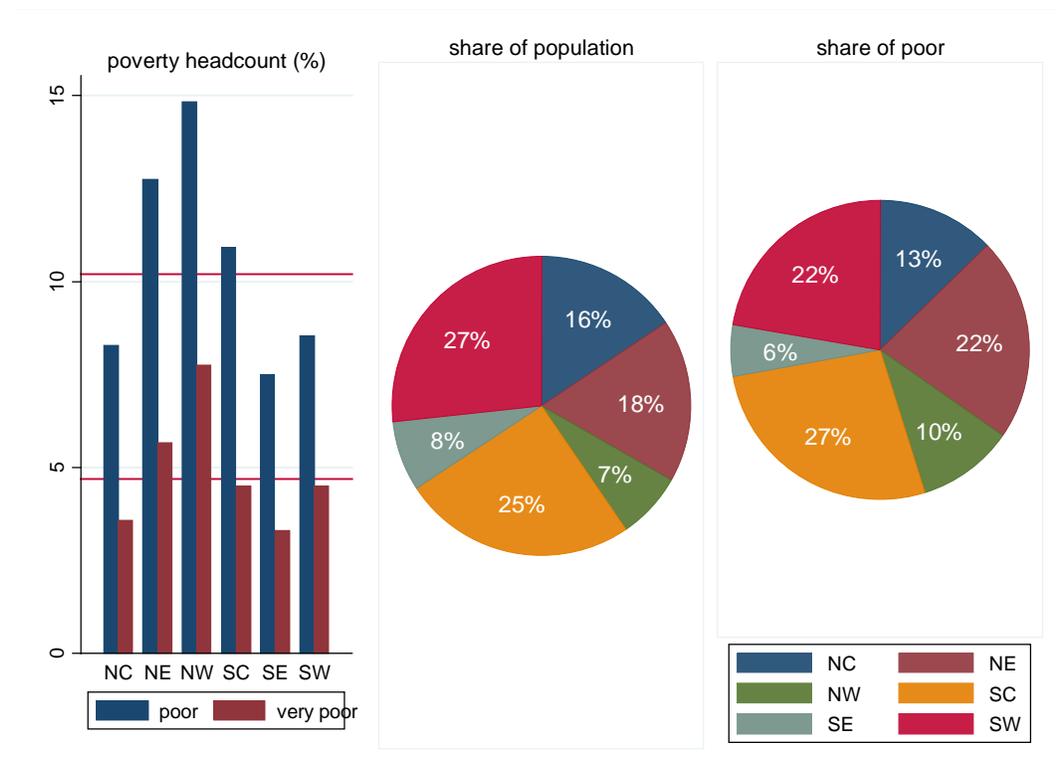
Note: The aggregate poverty gap is the minimum cost of eliminating poverty with perfect targeting.

### The Profile of the Poor

49. This section looks beneath national and urban-rural aggregates and asks: (1) which groups face a higher than average risk of poverty and (2) which groups constitute the majority of the poor. The two questions are not identical: Certain groups can have an extremely high incidence of poverty but may not form the majority of the poor because of their small share in the population. The analysis reveals the groups at high risk of poverty—groups where the incidence of poverty, or the poverty headcount, is above the national average—as well as the largest groups of poor. To streamline the presentation, simple graphics are used and focus is concentrated on total poverty.

50. *There is large regional disparity in poverty.* . A breakdown of poverty by geographic locations reveals important variation across the six EU planning regions. In 2007 nearly 15 percent of people in the NW Region lived in poverty, almost twice the poverty rate in the SE Region (Figure 3.1). In 2007, the poverty incidence was highest in the NW Region, where about 15 percent of the population lived below the poverty line. The SE Region, where the capital city is located, had the lowest poverty incidence of all the Regions.

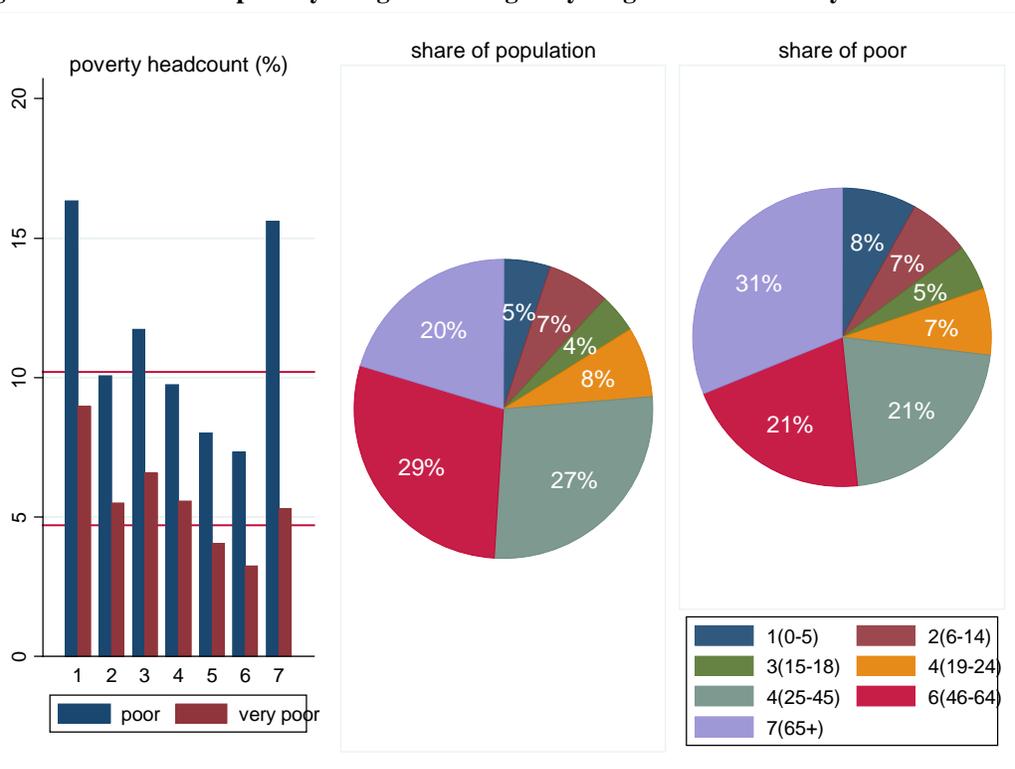
Figure 3.1: Regional disparities in poverty are large.



Source: MTHS 2007.

51. *The life cycle effect on the distribution of poverty in Bulgaria is significant.* Poverty and extreme poverty rates in 2007 were highest among children and the elderly (Figure 3.2). Children (below 6 years) were the poorest, with a headcount poverty rate of 16.2 percent, 6 percentage points more than the national average. The below 6 age group made up 5 percent of the population but accounted for more than 8 percent of the poor. The second poorest age group was individuals older than 64 years (*the elderly*), with a 15.6 percent poverty incidence. These two age groups together comprised 25.3 percent of the population but more than 39 percent of the poor. Among children under the age of 6, the poverty incidence was almost 2.5 times higher among rural residents than among their urban counterparts. In contrast, the elderly, when living in rural areas, had a marginally lower poverty rate than urban residents.

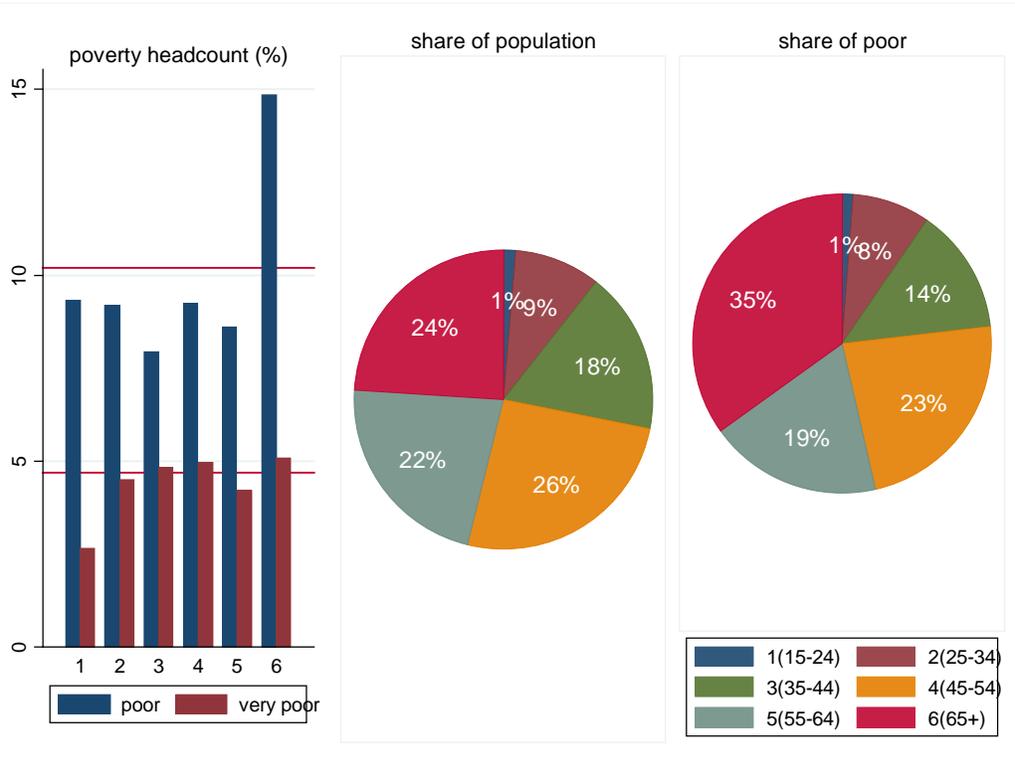
**Figure 3. 2: The risk of poverty is highest among the youngest and the elderly.**



Source: MTHS 2007.

52. Similarly, the incidence of poverty varies widely by age of household head (Figure 3.3). The headcount poverty varied from about 7.3 percent for household heads aged 45 to 64 to about 15.6 percent for persons aged 65 and over in 2007.

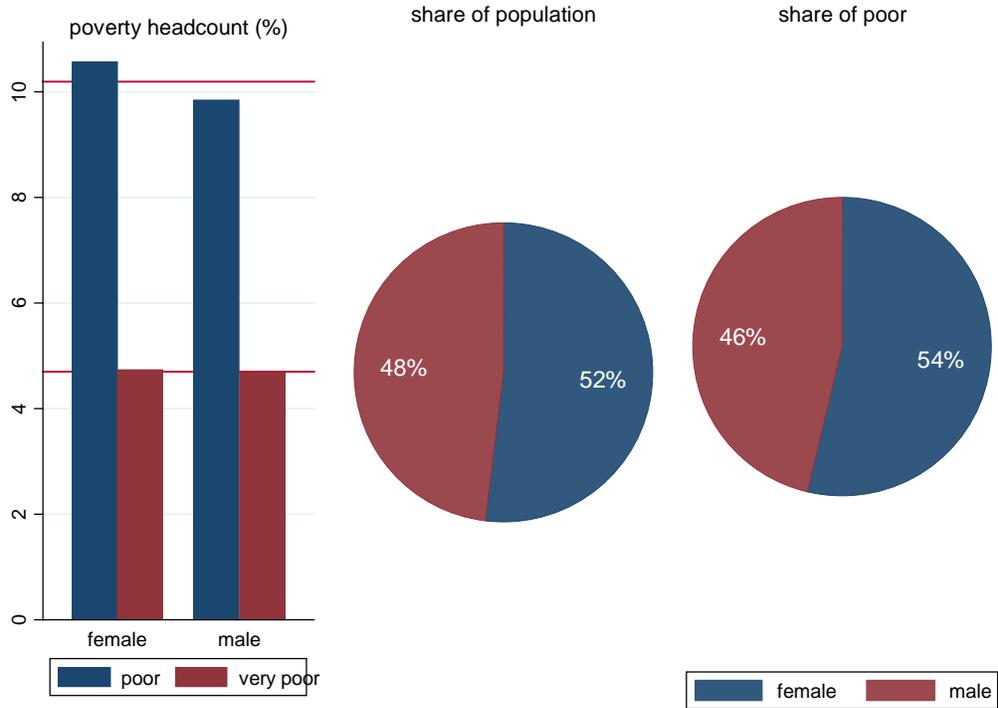
**Figure 3.3: Households with older heads face a higher risk of poverty than households with younger heads.**



Source: MTHS 2007.

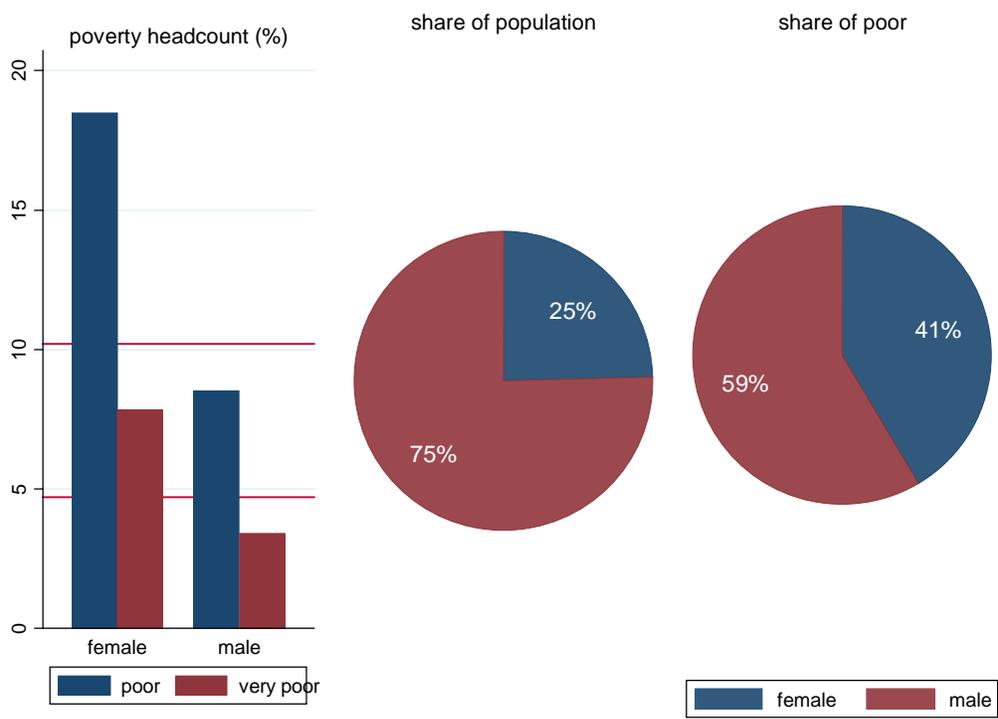
53. Although poverty is not significantly different between males and females, female-headed households are much poorer than those headed by a male (Figure 3.4 and Figure 3.5). The risk of poverty is twice as large in female-headed households as in male-headed households. Although female-headed households account for only a quarter of the population, the difference in the poverty incidence is alarming.

**Figure 3.4: Gender and Poverty**



Source: MTHS 2007.

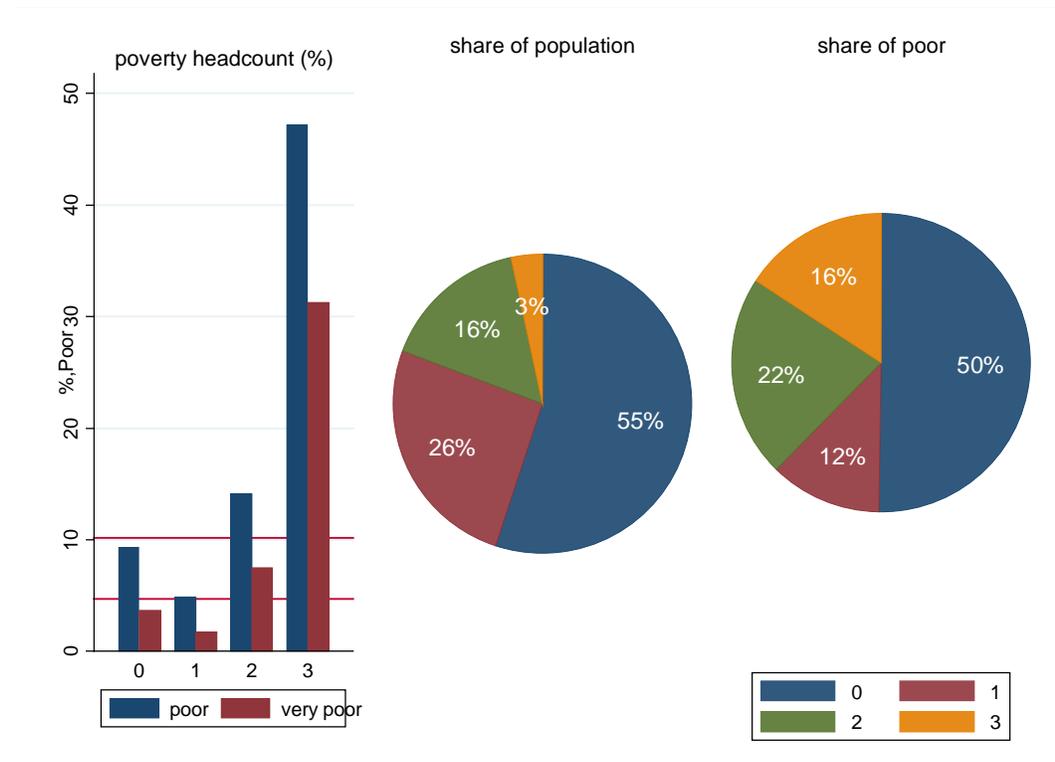
**Figure 3.5: Female-headed households face greater poverty risk than male-headed households.**



Source: MTHS 2007.

54. *Households with many children face much higher risk of poverty than those with fewer children.* In Bulgaria, households with no children constituted the largest share of the population; only 45 percent of Bulgarian households had at least one child in 2007 (Figure 3.6). Households with two or more children below 18 years of age were likely to face a higher than average risk of poverty. In other words, their level of consumption poverty was higher than the poverty average in the general population. The risk of poverty dramatically increased with a third child or more. For instance, the likelihood of falling into poverty increased to more than 47 percent for a household with three or more children from only 14 percent for a household with two children.

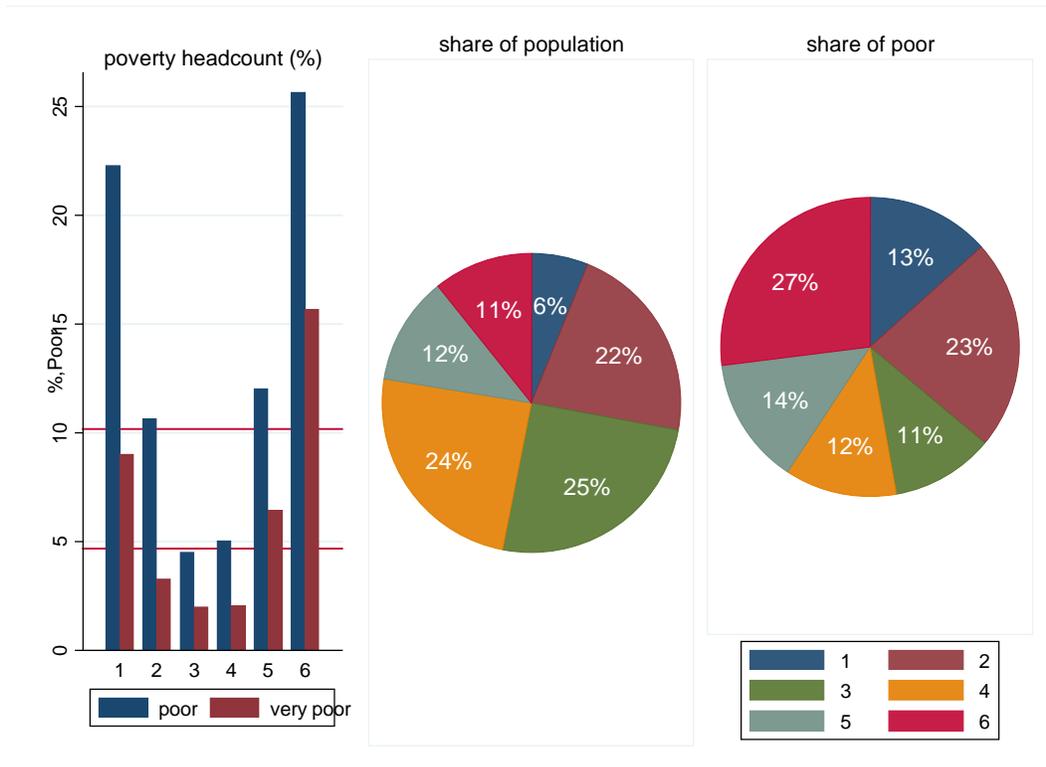
**Figure 3.6: The risk of household poverty rises with the number of children.**



Source: MTHS 2007.

55. *Excluding individuals living alone, large household size is directly associated with a high poverty.* The risk of poverty was higher than the national average for households with five or more members (Figure 3.7). The typical household in Bulgaria had three to four members in 2007. Poverty steadily increased with additional household members. For instance, the poverty rate jumped from about 5 percent for a four-member household to more than 12 percent for a five-member household. For a household with six or more members, the poverty rate dramatically increased to more than 25 percent, more than twice the national average. Although households with six or more members represented less than 11 percent of the population, they comprised 27 percent of the poor. Individuals living alone faced twice the national average risk of poverty. Accounting for more than 13 percent of the poor, they constituted only 6 percent of the population.

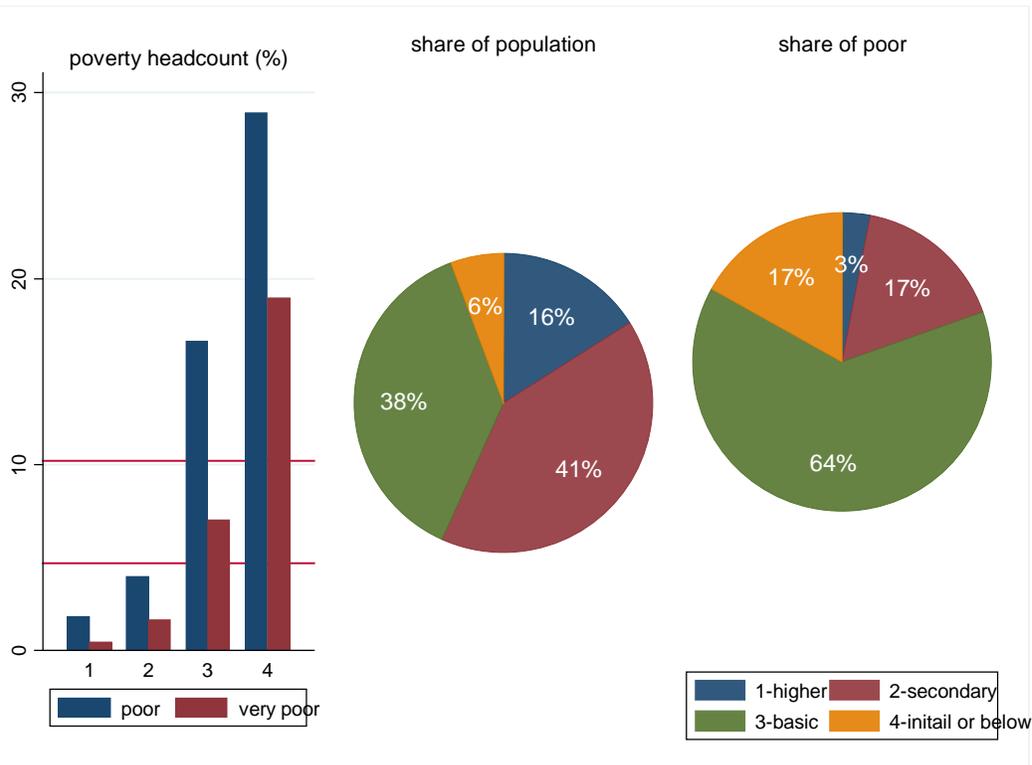
**Figure 3.7: Excluding individuals living alone, poverty steadily increases with household size.**



Source: MTHS 2007.

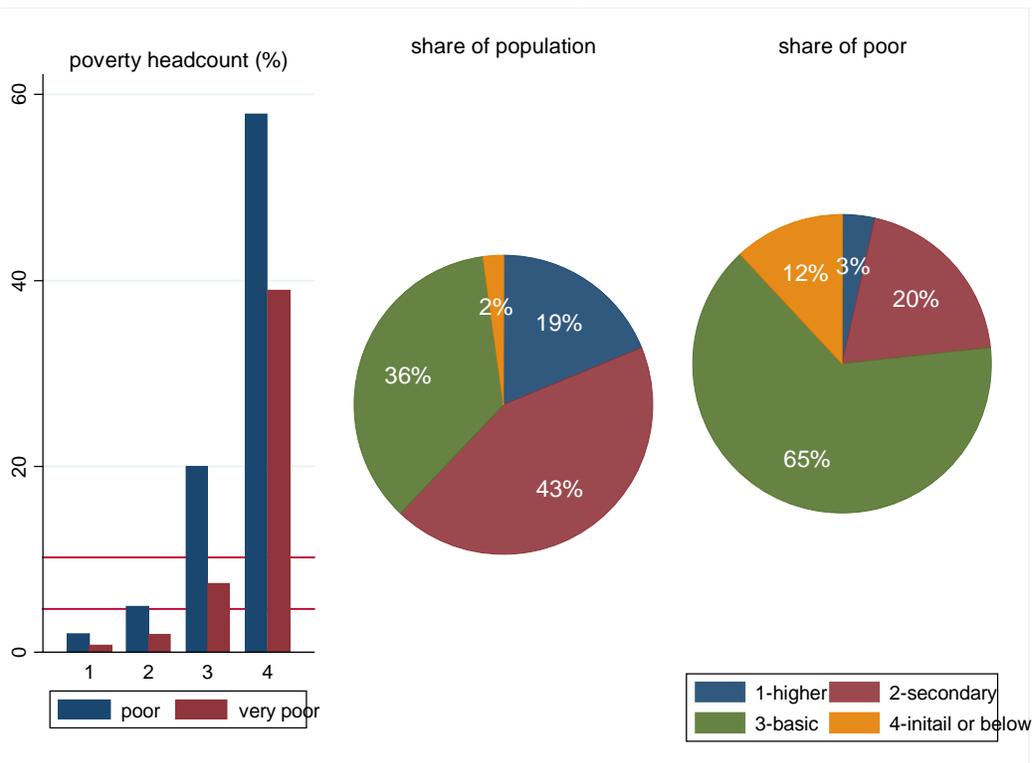
56. *Education provides a strong route out of poverty.* Low educational attainment is associated with higher poverty. Individuals with initial education or lower had the highest poverty incidence. More than a quarter lived in poverty and about 1 out of 5 was at risk of extreme poverty in 2007 (Figure 3.8 and Figure 3.9). The risk of poverty was significantly lower for individuals with at least a secondary education.

**Figure 3.8: Education is strongly associated with lower poverty.**



Source: MTHS 2007.

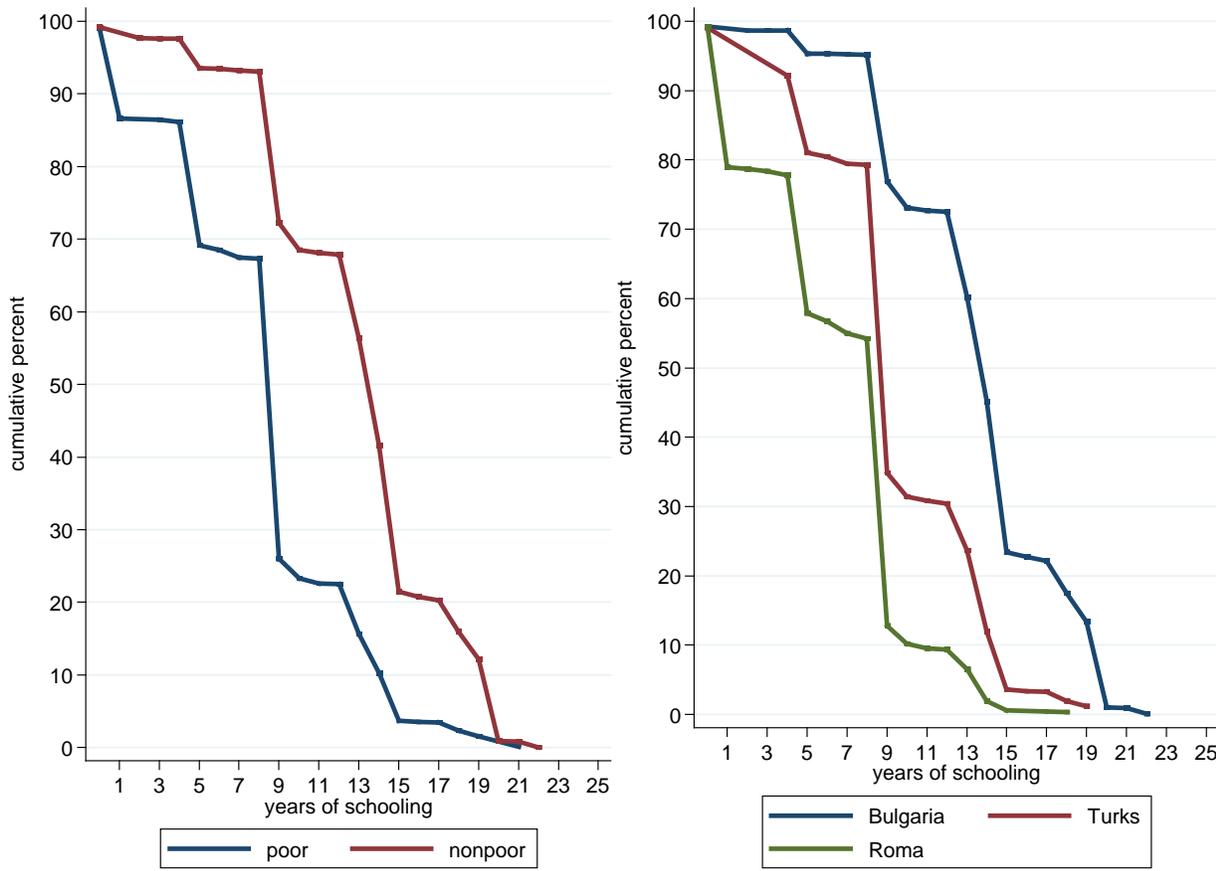
**Figure 3.9: The better educated the head of household, the better-off is the household.**



Source: MTHS 2007.

57. *The poor and ethnic minorities have fewer years of schooling among adults ages 20 and older than the nonpoor and ethnic Bulgarians (Figure 3.10). Education has a direct bearing on the incidence of poverty, particularly among ethnic minorities. Among individuals older than 20 years of age, drop-out after the eighth grade has been a serious problem, particularly for the poor and minority ethnic groups.*

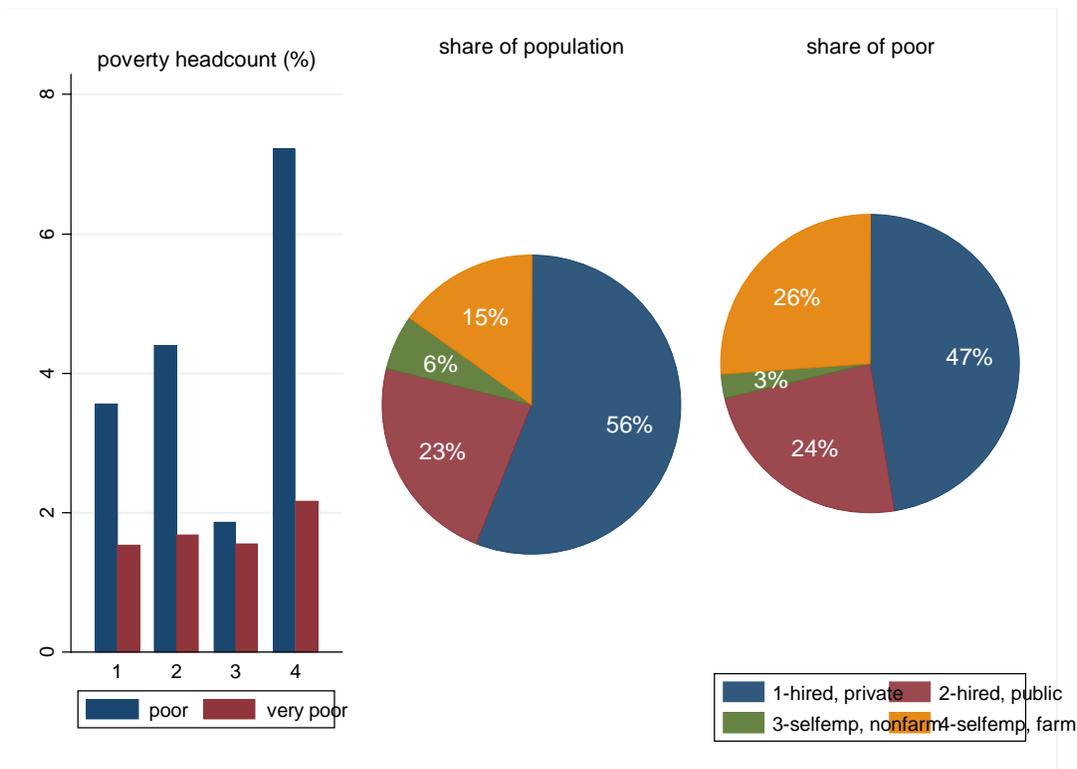
**Figure 3.10: The poor and ethnic minority groups have substantially lower educational attainment than the nonpoor and ethnic Bulgarians.**



Source: MTHS 2007.

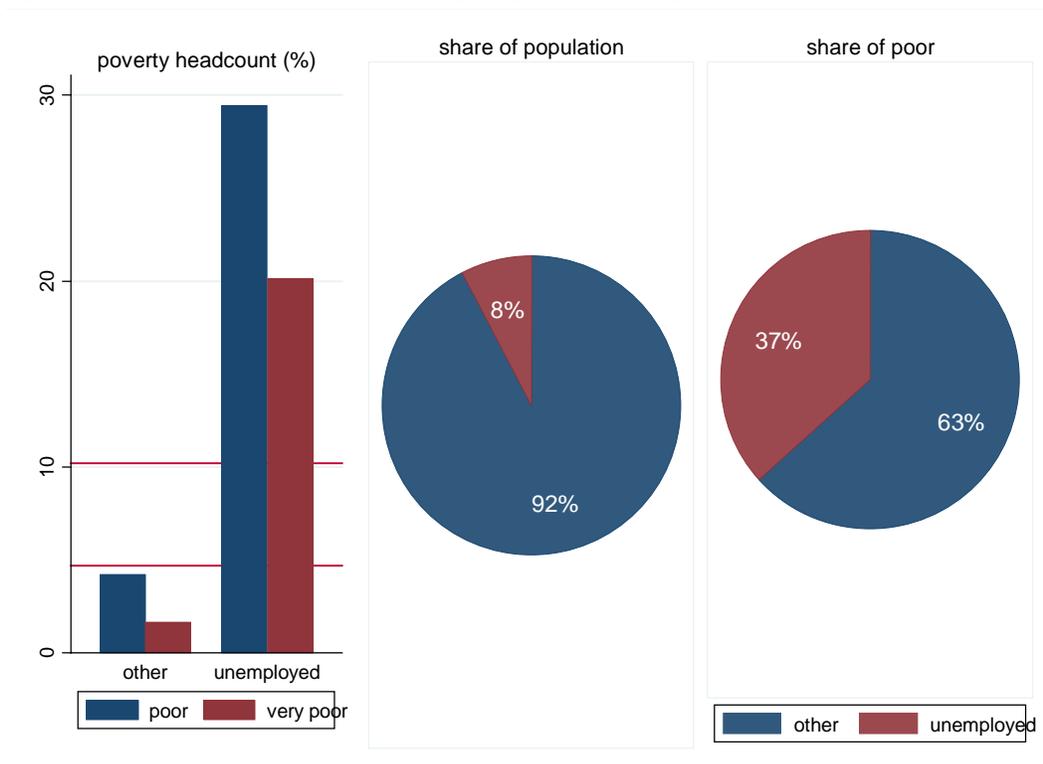
58. *All categories of employed individuals face less than national average risk of poverty. Among the employed, the self-employed in agriculture faced a higher than average risk of poverty than other employed individuals in 2007 (Figure 3.11). The self-employed in the nonfarm sector had the lowest risk of poverty. For instance, while the share in population of self-employed in the nonfarm sector was about 6 percent, they made up less than 3 percent of the poor. Among wage laborers, workers in the private sector fared better than public sector workers. The private sector accounted for the largest share of all employment and provided jobs for 56 percent of the employed in 2007. Although the number of unemployed declined as a share of the workforce, this group remained significantly poorer than the rest of the population (Figure 3.11).*

**Figure 3.11: Among the employed, the risk of poverty is highest among the self-employed in agriculture.**



Source: MTHS 2007.

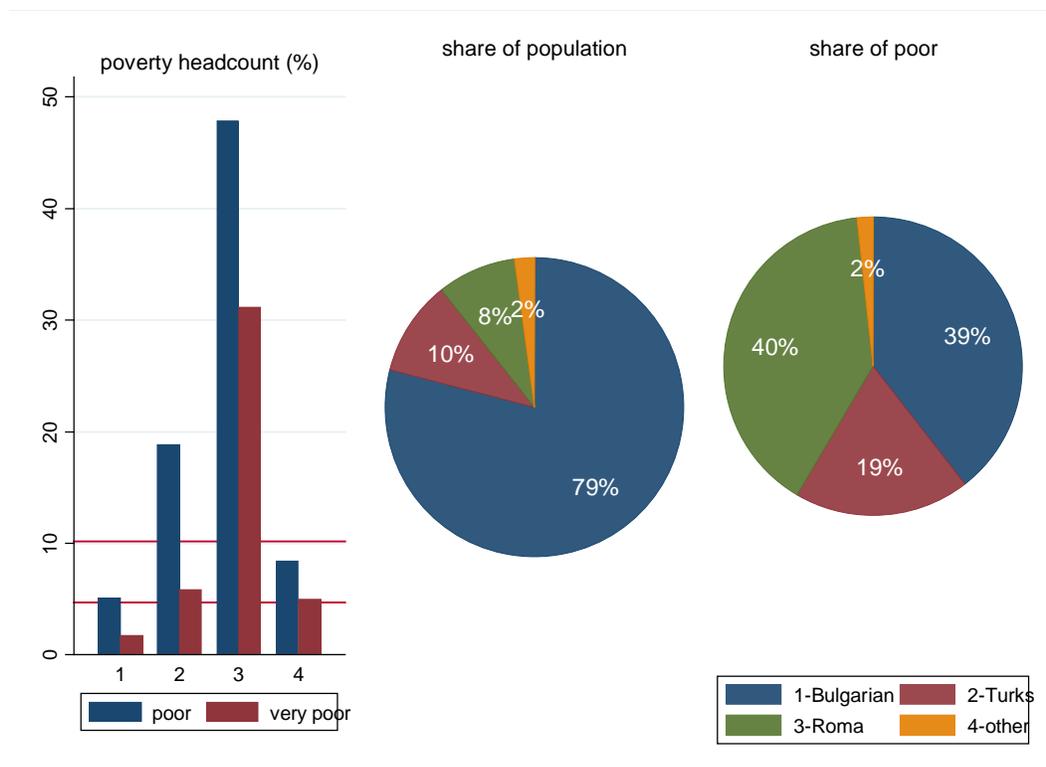
**Figure 3.12: The unemployed are among the poorest in Bulgaria.**



Source: MTHS 2007.

59. *Poverty is much more prevalent among ethnic minority groups, particularly the Roma, than in the overall population.* The distribution of wealth, as measured by aggregate consumption expenditures, is skewed in favor of the Bulgarians (Figure 3.13). In 2007, half of the Roma population was poor, and a third lived in extreme poverty. The Roma and Turk populations fared the worst in Bulgaria, with a poverty incidence rate respectively 10 and 4 times greater than that of ethnic Bulgarians. Combined, Roma and Turks made up less than 19 percent of the population, but almost two thirds of the poor. Though less than 9 percent of the population, the Roma people accounted for almost 40 percent of Bulgaria's poor.

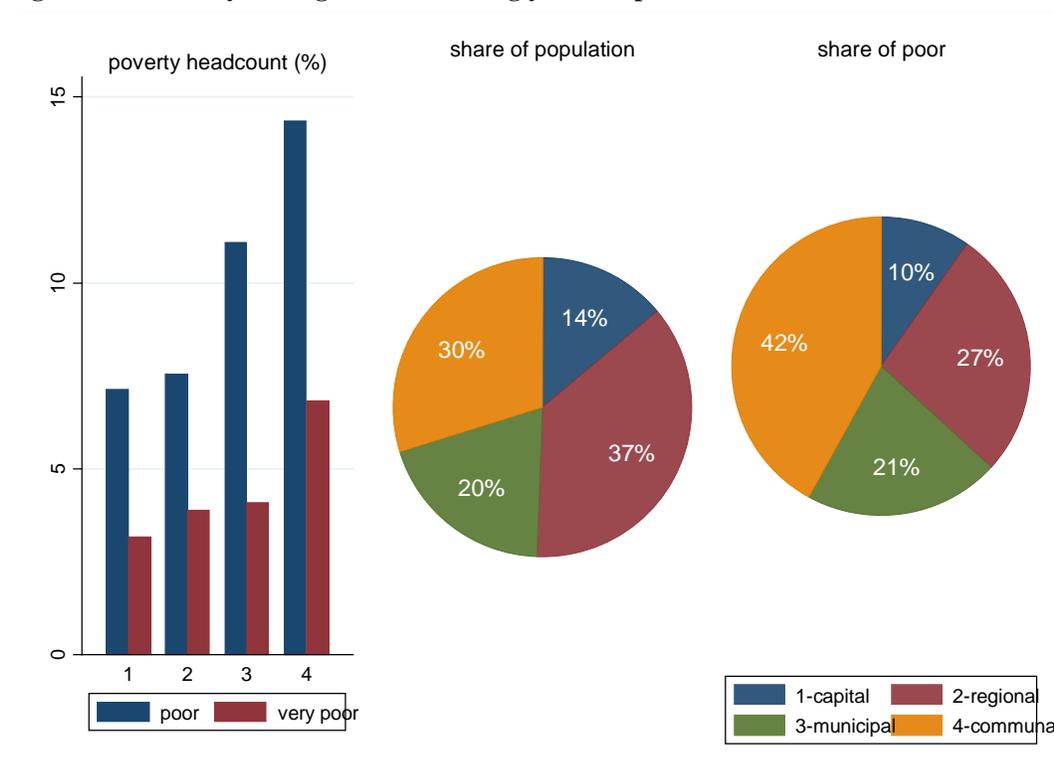
**Figure 3.13: The Roma ethnic minority group faces the highest risk of poverty.**



Source: MTHS 2007.

60. *Poverty is increasingly a rural phenomenon in Bulgaria.* Disaggregating poverty along the urban-rural continuum reveals that the incidence of poverty declines with urbanization (Figure 3.14). Poverty is highest in rural communities and next highest in municipal centers. Although the capital enjoys the lowest incidence of poverty, the difference between the capital and regional centers is not statistically significant.

**Figure 3.14: Poverty in Bulgaria is increasingly a rural phenomenon.**



Source: MTHS 2007.

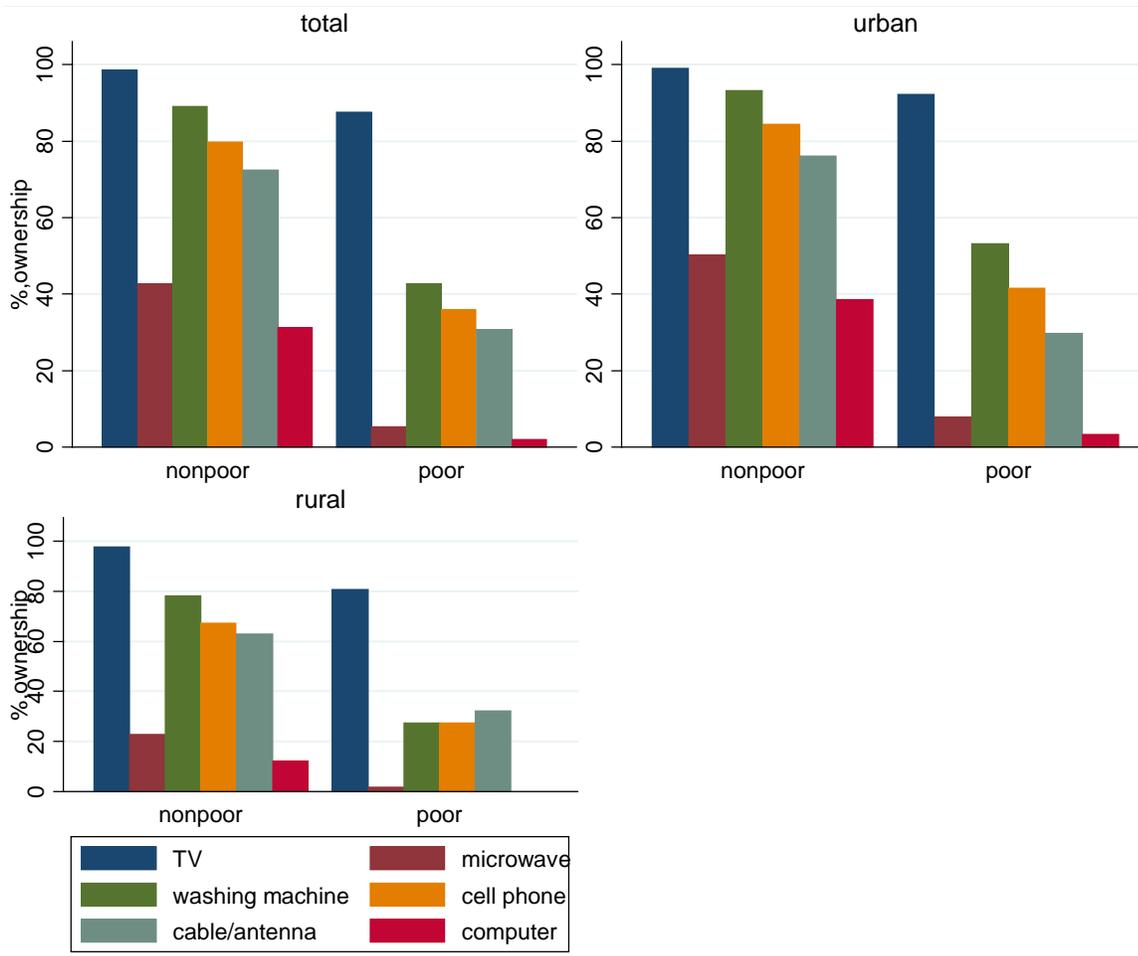
### Nonmonetary Poverty Profile

61. Consumption poverty is contrasted in this section against other dimensions of well-being, such as housing amenities, ownership of essential assets, and subjective perceptions of well-being. Also, individual attributes of deprivation such as low educational attainment, poor health status, and employment status are contrasted with consumption poverty. As expected, there is a close correlation (overlap in identifying the poor) between these dimensions of well-being and consumption poverty.

62. A few key nonmonetary indicators of poverty are reported in this study: health poverty, education poverty, asset poverty, unemployment, and subjective poverty. Also covered is the proportion of people reporting some difficulties filling basic needs such as food, clothing, heating, electricity, health care, and education.

63. *Asset ownership.* Figure 3.15 compares ownership of various assets by poor and nonpoor households. A higher fraction of the consumption poor than the nonpoor also lack durable goods such as a car, microwave, computer, and mobile phone.

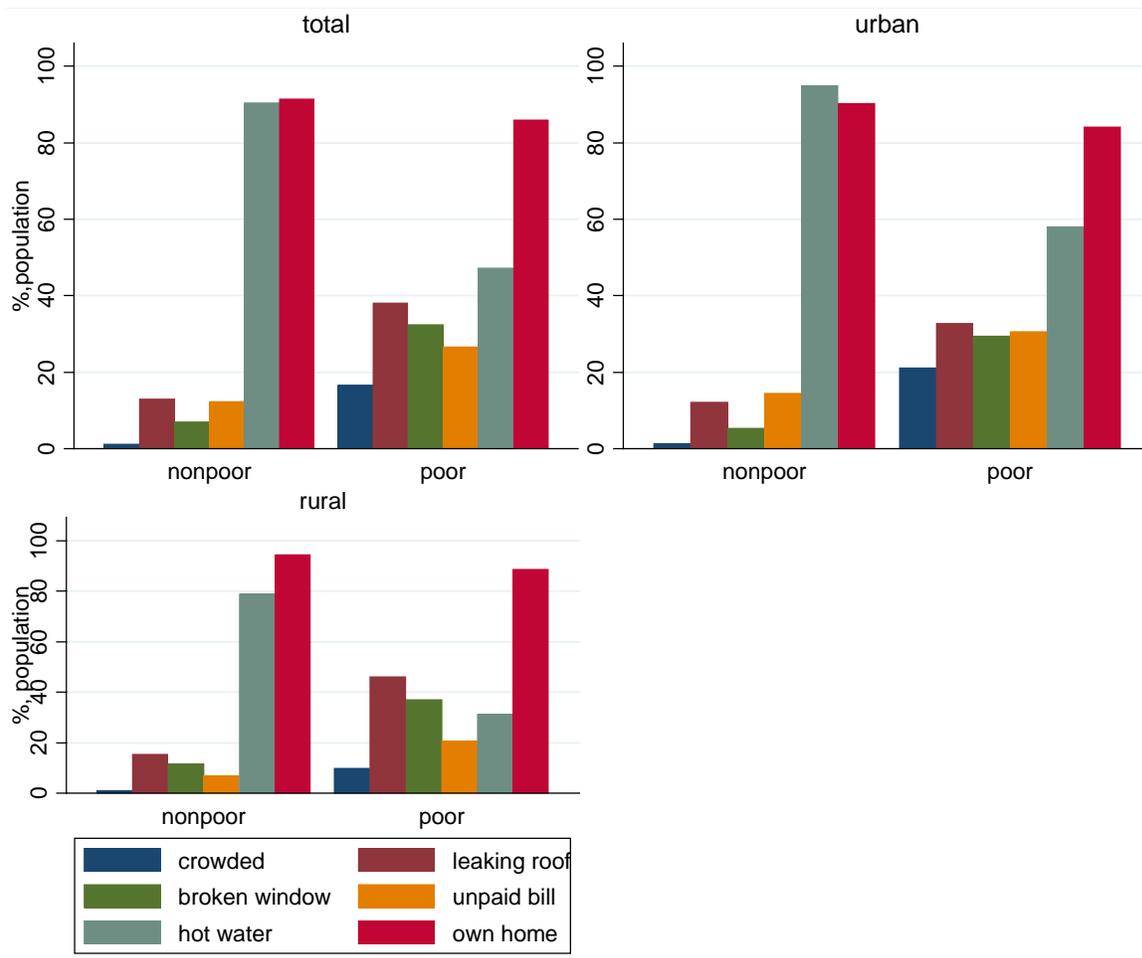
**Figure 3.15: Asset Ownership and Poverty, 2007**



Source: MTHS data, 2007.

64. *Housing poverty.* The poor are more likely than the nonpoor to live in crowded, dilapidated housing, for example, sharing a room with three or more people and living in houses with broken windows and a leaky roof (Figure 3.16). Crowding is worse for the urban poor: more than 20 percent of poor reported sharing a room with three or more others. The poor are more likely than the nonpoor to have unpaid bills. Access to hot water is more limited for the poor than the nonpoor. Similarly, outstanding unpaid bills for utilities is more characteristic of the urban poor, with more than 30 percent reporting unpaid bills, than of the rural poor, with about 20 percent reporting unpaid bills. Home ownership is high for both the poor and the nonpoor, but the nonpoor have a higher rate of ownership. Overall, housing poverty is strongly correlated with consumption poverty.

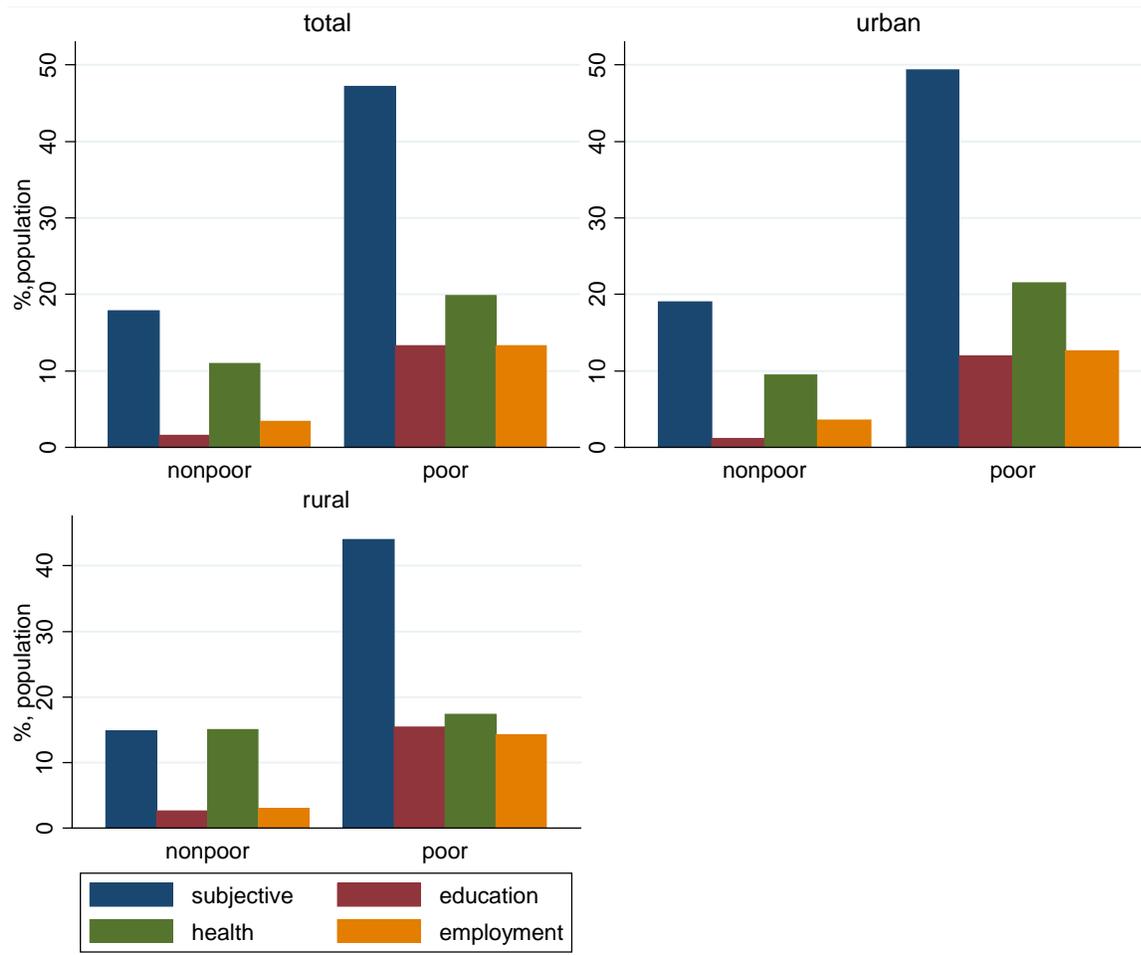
**Figure 3.16: Housing Poverty, 2007**



Source: MTHS, 2007.

65. *Subjective poverty.* The income of more than 47 percent of the consumption poor nationwide was lower than the amount perceived as sufficient to escape poverty in 2007. The corresponding rate among the nonpoor was 18 percent (Figure 3.17). In urban areas about 50 percent of the consumption poor perceived themselves as poor, with income below the hypothetical amount needed to consider themselves nonpoor. In Sofia, the rate was higher, 57 percent. In the municipal towns, only 38 percent of the consumption poor had income below their perceived amount to consider themselves nonpoor, and the corresponding figures for regional centers and rural communities were 52 percent and 46 percent, respectively. A non-negligible number of consumption nonpoor considered themselves poor. There were slightly more of them in urban areas—about 19 percent—than in rural areas—about 15 percent.

**Figure 3.17: Individual Dimensions of Nonmonetary Poverty, 2007**



Source: MTHS 2007.

66. *Poverty in individual attributes.* Figure 3.17 also presents individual dimensions of nonmonetary poverty, using attributes such as education, health, and employment and their correlations with consumption poverty. For instance, an individual may be considered education-poor if s/he does not achieve a minimal stock of education by a certain age, while others may be considered health-poor if chronic illness or disability impinges upon their ability to function effectively in society. These dimensions of poverty are analogous to what Sen (2000) refers to as “capabilities.” As can be seen from figure 3.17 consumption poverty is highly correlated with these individual dimensions of deprivation:

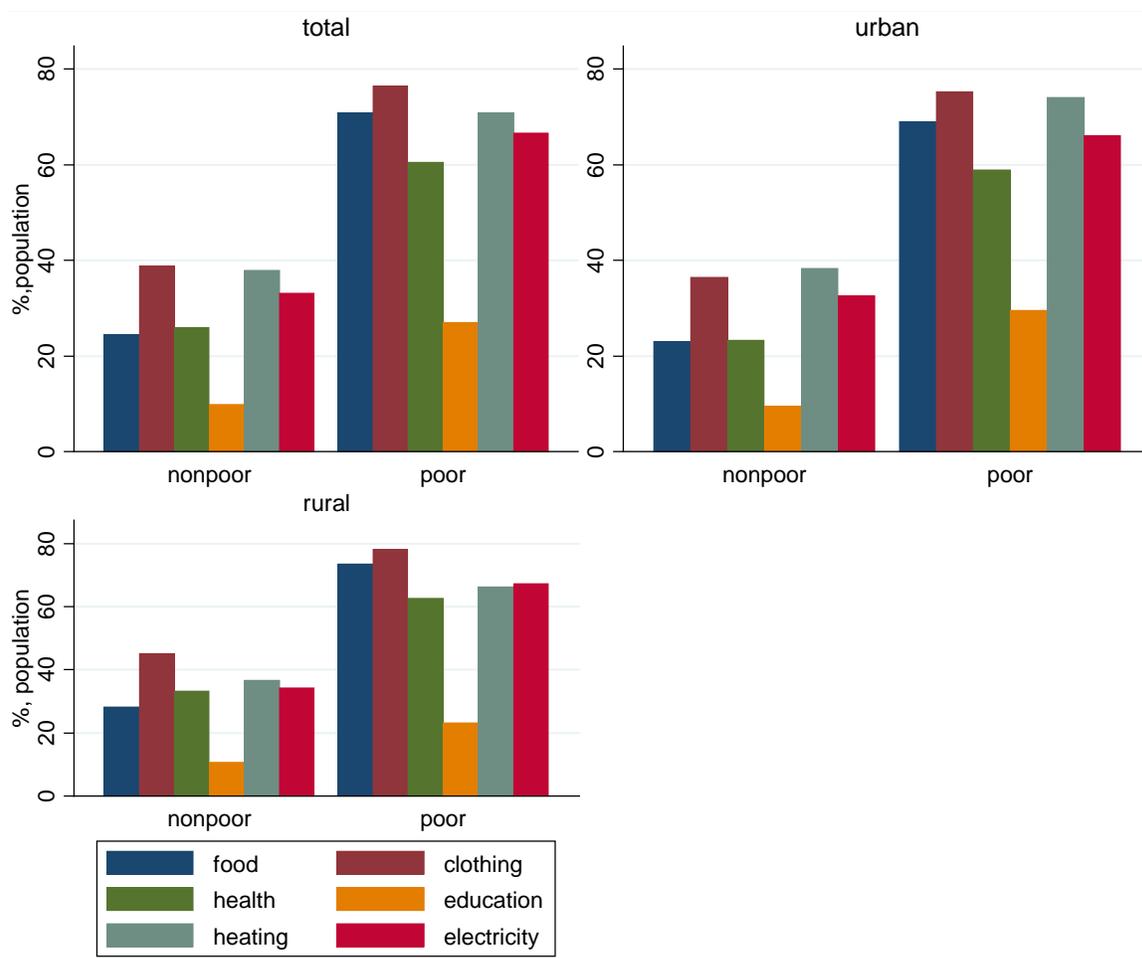
*Education poverty* is correlated with consumption poverty, as the consumption poor have a higher proportion of adults 18 and older with less than an initial level of education. The correlation is stronger in urban than rural areas.

*Health poverty*, defined as an individual’s own perception of poor health, is higher among the poor than among the nonpoor regardless of location. Nationwide, close to 20 percent of the poor population perceived its health as poor, compared with 11 percent for the nonpoor. The difference between the poor and the nonpoor was highest in Sofia, where close to 28 percent of the poor was health-poor versus about 7.5 percent for the nonpoor population in the capital.

*Employment poverty* was defined for the working-age cohort as unemployed. About 8 percent of working-age individuals suffer from employment poverty, more in rural areas than urban. There is a strong correlation between unemployment poverty and consumption poverty: while only 6 percent of consumption nonpoor were employment poor, about 32 percent of consumption poor were also employment poor.

67. *Difficulties meeting basic needs.* The poor reported greater difficulties meeting their basic needs than the nonpoor in 2007 (Figure 3.18). The difference between the poor and nonpoor was less pronounced in the capital, not only because the poor reported fewer difficulties there but also because many of the nonpoor claimed a relatively high level of difficulties meeting their food, energy, clothing, education, and health care needs. of all the difficulties reported, obtaining heating appeared to be the main concern.

**Figure 3.18: Difficulties Meeting Basic Needs (percent of population)**



Source: MTHS 2007.

## 4. CORRELATES OF POVERTY

68. For policy makers it is crucial to discern which household characteristics are more significantly related with household welfare and hence with poverty risk than others. The last part of this report presents a multivariate analysis of poverty to disentangle the impact of various determinants of household consumption such as demographic variables, economic, and location factors. The dependent variable is per adult equivalent consumption. An extensive list of explanatory variables is used to examine the relative role of several individual, household, and regional variables on household welfare. Household-level variables included are demographic and educational variables, labor market participation, health status, physical and financial asset holdings, and household perception of its economic situation. Common determinants that figure prominently in household consumption empirical work, such as age, gender composition, and educational attainment of the household head are among the explanatory variables. Regional dummies, including urban-rural identifiers, are used to capture regional heterogeneity and other factors beyond the control of individuals and households. These variables are commonly considered determinants of household welfare in the literature. The model is estimated using standard Ordinary Least Square (OLS) procedure with robust standard errors. The results are presented in annex table A4.

69. Before discussing the regression results, a brief description of consumption and its composition is presented as well as the main results of the descriptive statistics of the key explanatory variables reported in annex tables A2 and A3.

### Composition of Consumption

70. Household consumption increased remarkably from BGN 339 in 2003 to BGN 410 in 2007, a 21 percent increase in four years (Table 4.1). The rural areas and the poorest wealth groups experienced greater improvement in their well-being than other groups. Consumption improved more than 32 percent for households in the poorest quintile and more than 25 percent for those in the second and third quintile, compared with 13 percent for the richest quintile. The corresponding increase for the rural areas was about 26 percent, compared with 18 percent for urban areas.

**Table 4.1: Changes in Household Consumption Expenditures between 2003 and 2007**

| <i>Area</i>               | <i>2007</i> | <i>2003</i> | <i>Change (%)</i> |
|---------------------------|-------------|-------------|-------------------|
| Urban                     | 437.3       | 368.9       | 18.5              |
| Rural                     | 344.1       | 273.4       | 25.8              |
| <i>Region<sup>a</sup></i> |             |             |                   |
| North Central (NC)        | 412.2       | 320.7       | 28.5              |
| Northeast (NE)            | 387.0       | 313.5       | 23.5              |
| Northwest (NW)            | 360.9       | 306.7       | 17.7              |
| South-Central (SC)        | 402.1       | 299.3       | 34.3              |
| Southeast (SE)            | 407.7       | 367.3       | 11.0              |
| Southwest (SW)            | 446.8       | 402.6       | 11.0              |
| <i>Quintile</i>           |             |             |                   |
| Quintile 1 (lowest) +     | 176.3       | 133.3       | 32.2              |
| Quintile 2                | 277.9       | 221.2       | 25.6              |

|                      |       |       |      |
|----------------------|-------|-------|------|
| Quintile 3           | 365.0 | 291.2 | 25.3 |
| Quintile 4           | 474.7 | 382.4 | 24.1 |
| Quintile 5 (highest) | 757.9 | 669.0 | 13.3 |
| Total                | 410.3 | 339.3 | 20.9 |

Sources: MTHS 2003, 2007.

a. Based on the EU planning regions for Bulgaria; see table 2.4, this report.

71. *With regard to composition, household consumption patterns were remarkably similar in both 2003 and 2007.* As expected, food accounted for the largest share of consumption expenditures. The national average share of household consumption devoted to food was a little more than 45 percent in 2003, and slightly larger, 47 percent, in 2007 (Table A.1 in Annex A). However, the food share of consumption varied largely with wealth. For instance, in 2003, it ranged from more than 57 percent for the richest quintile to 35 percent for the poorest. Similarly, in 2007, the share of food expenditures varied from 53 percent for the poorest quintile to 41 percent for the richest. The apparent increase in food shares in 2007 compared with 2003 was attributable to increased spending on food eaten outside the home, for example, in restaurants and cafes. The overall food share and the significant differences according to wealth classes are comparable to other middle-income countries in World Bank ECA Region. The second largest consumption item was utilities, more than 18 percent of total consumption expenditures in 2007, slightly lower than its 20 percent share in 2003. Other consumption items rounding up top five largest shares are nonfood expenditures, food eaten away from home, and user values of durable goods.

72. *As expected, the share of food in expenditures was larger in rural areas than in urban areas.* In 2007, about 53 percent of rural residents' total expenditures went to food and food eaten away from home, compared with only 45 percent for urban households. The poorest spent a significantly larger share on these two items than the richest in rural areas. The extremely poor (lowest quintile) devoted on average 63 percent of their budget to food-related expenditures as compared with 37 percent for the richest quintile. A similar trend was found in urban areas: the lowest quintile spent 53 percent of their budget on food and food eaten away from home while those in richest quintile spent only 34 percent. In general, the food share decreases steadily across quintiles with the richer spending a smaller share of total expenditures on food. Overall, the results of 2007 and 2003 were strikingly similar, and no major deviations in trend were observed in terms of the composition of household consumption expenditures.

## **Descriptive Statistics of Selected Variables**

73. *Except for very few cases, there were no significant differences in household characteristics variables between 2003 and 2007.* Table A.2 in Annex A presents urban-rural descriptive statistics of selected variables for the 2003 and 2007 survey years. There were some important differences between 2003 and 2007:

The population aged by 1.1 years as the number of adults increased 8 percent and the number of children under age 18 decreased 10 percent.

Educational attainment at the secondary level increased 2.5 percentage points.

The urban population share increased 2.1 percentage points.

Formal sector employment increased 6.5 percentage points.

Unemployment declined 4.3 percentage points.  
Health insurance coverage increased 6.4 percentage points.  
Access to hot water increased more than 20 percentage points.  
The percentages of people living in decrepit housing declined leaky roofs down 7.5 percentage points, broken windows down 4.6 percentage points.  
Home ownership increased 4.1 percentage points.  
Households reporting unpaid bills decreased 5.4 percentage points.  
Ownership of durable goods increased: computers up 16.4 percentage points; cell phones up more than 33 percentage points.

## **Empirical Results and Discussion**

74. Reduced form estimates of the determinants of household consumption are presented in this section as functions of geographic and household characteristic variables. Accordingly, Table A.3 in Annex A reports results of a logarithmic regression of household consumption by individual, household, and regional characteristics variables. The coefficient estimates and their significances were similar for both 2003 and 2007.

75. *Demographic factors became significant predictors of consumption expenditures, particularly in 2007.* In 2007, urban households with bigger families and children were at significant risk of poverty. However, for both urban and rural areas, an increase in the fraction of working age adults was associated with an increase household consumption. The impact of household head gender was statistically significant: female-headed households were at a decided disadvantage. Households with access to health insurance had a higher living standard than uninsured households. Households with a disabled family member were worse-off.

76. *Education was by far the key determinant of household welfare.* Better-educated households continued to enjoy a better standard of living than the less educated. Households whose main source of income was wage employment in the private sector were significantly better-off than households dependent on income from public sector employment and self-employment in the farm sector in 2007, but private sector employment was not better paid than public employment in 2003. In rural areas, landholding was a significant predictor of household consumption.

77. *There are significant ethnic disparities in welfare.* Even after accounting for household and individual characteristics, ethnic minorities were significantly worse-off than Bulgarians in 2007. With regard to geographic location, urban areas in the NW Region were worse-off than those in the NC Region in both 2003 and 2007. However, the Southwest Region enjoyed a higher living standard than either NW or NC.

## 5. CONCLUSIONS

78. *According to the evidence, positive developments in Bulgaria led to significant improvements in welfare, but with noteworthy disparities among different population groups.* In 2007, only 1 out of 10 Bulgarians—close to three quarters of a million people—lived in poverty with consumption below or at the poverty line, compared with 20 percent four years earlier. However severe pockets of poverty persisted among certain groups, including the unemployed, ethnic minority groups, children in large families, and the elderly with weak family support structures. In contrast to the substantial declines in monetary poverty, improvements in nonmonetary dimensions of living conditions were much less dramatic. The proportions of individuals reporting difficulties meeting certain basic needs declined, as did the number of people living in dilapidated homes, but by much less than the reduction in consumption poverty.

79. *More markedly than in years past, poverty in 2007 was concentrated among distinct identifiable groups, signaling the need for policies that address underlying structural disadvantages rather than transient interventions for these groups* (Table 5.1). The strong connections between unemployment and poverty, and children and large households, as well as the disproportionately high incidence of poverty among ethnic minority groups such as the Roma put these groups at high risk of poverty. These are the key features of poverty developments in Bulgaria today. The concentration of poverty among these groups suggests that targeting interventions to address poverty should be easy, yet large pockets of resilient, persistent, and seemingly intractable chronic poverty remain. The recurrent poverty outcome deficiencies highlight the need for structural measures to fight poverty among these distinct groups such as building their productive and protective assets and investing in human capital to break intergenerational transfer of poverty.

**Table 5.1: Concentration of Poverty among Distinct, Identifiable Groups**

| <i>Group</i>                      | <i>Poor</i><br><i>(poverty line = BGN 185)</i> | <i>Very poor</i><br><i>(poverty line = BGN 145)</i> |
|-----------------------------------|--|---|
| Large Roma families (> 6 members) | 75.5   | 51.0  |
| Roma Children (age<=18)           | 51.4   | 34.7  |
| Roma                              | 47.5   | 30.9  |
| Large families (> 6 members)      | 34.2   | 22.5  |
| Unemployed                        | 32.4   | 21.7  |
| Elderly (age>=65) living alone    | 29.7   | 11.4  |
| National average                  | 10.2   | 4.7   |

Sources: MTHS data, 2007

80. Nine main messages emerge from this analysis and the associated supportive evidence. The first five findings are encouraging. The others challenge Bulgaria to achieve more inclusive and sustainable development:

- (1) Living standards improved significantly between 2003 and 2007.
- (2) Bulgaria has become a “more equal” society.
- (3) (Growth has been pro-poor, particularly in urban areas.
- (4) Bulgaria has avoided the phenomenon of the “working poor.”
- (5) Living conditions for the disabled have improved significantly.
- (6) Modest improvements have been achieved in nonmonetary dimensions of well-being.
- (7) Poverty is highest among children and the elderly.
- (8) The unskilled face enormous difficulties in overcoming poverty.
- (9) Poverty is concentrated among distinct and identifiable groups.

## **ANNEX A: METHODOLOGY: POVERTY MEASUREMENT AND ANALYSIS**

1. A brief conceptualization of poverty and the main elements of the methodology used to measure and analyze poverty in Bulgaria are presented in this annex.

### **The Concept of Poverty**

2. The concept of poverty is multidimensional and encompasses many elements. To name but a few: limited access to adequate food, clothing, shelter, clean water and sanitation, health care and education, consumer and productive assets, powerlessness and social exclusion, and early mortality. Poverty measurement and analysis asks whether a household or an individual possesses enough resources or abilities to meet their basic human needs.

3. Two key ingredients are required for measuring poverty. First, a well-being indicator needs to be decided upon. Second, a “poverty line” has to be designated to mark the threshold below which a household or individual will be classified as “poor,” lacking what society believes represents a minimum acceptable standard of living.

4. With regard to the well-being indicator, the first ingredient, both monetary and nonmonetary measures of welfare can be used in gauging and analyzing poverty. The two commonly used monetary measures of welfare are income and consumption expenditures. Once a choice is made on the first ingredient, deciding on the poverty line, the second ingredient, entails choosing a cutoff point separating poor from nonpoor. Poverty lines can be monetary (e.g., a certain level of consumption or income) or nonmonetary (e.g., a certain level of literacy or physical health). There are two ways of selecting a poverty line: relative and absolute.

### **Construction of Consumption Aggregate**

5. To be a good welfare predictor, the consumption aggregate must be as comprehensive as possible. The 2003 and 2007 Multitopic Household Survey (MTHS) collected the necessary information to calculate all the main components of the aggregate: food consumption (both purchased and consumed from own production), nonfood expenses (e.g., clothing, household articles), utilities (e.g., gas, telephone, and electricity), education, health, durables, and housing. Housing expenditures could not be included: most households own their own homes and their rental values could not be imputed.

6. Once the necessary data are collected, the construction of a consumption-based welfare measure typically involves aggregation of information collected from households or individuals on different types of consumption items in the survey (e.g., food, user values of durable goods, health and educational expenditures, housing) In the aggregation process, several adjustments are made, including: adjustment for differences in needs among households of different size and composition; adjustments for the age of household members as well as for economies of scale; and adjustments for differences in prices across regions and

at different points in time. Some details on the composition of the consumption aggregate and how they are constructed are provided next.

### **Food Consumption**

7. Food consumption data were collected over a 30-day period (Table A.1). The food module contained questions about average monthly consumption, purchased items, nonpurchased items (own-produced and received as gift), food eaten outside home, check list and eventual inclusion of items purchased before the reference period. These questions were for each of more than 170 different food items. The average monthly consumption was used to check the consistency of data against purchases and own-production consumption responses. In a few cases, abnormal expenses were detected after checking food subgroups that accounted for suspiciously high budget shares and also when the household declared excessively high per capita consumption of certain food items. The total number of corrections was less than 0.1 percent of the recorded transactions, an indication that the MTHS 2007 was a clean and well-run survey.

8. The value and quantity of each purchased food item and each food item produced for own-consumption by the households or received as a gift (information readily available in the MTHS data) were used in construction of the food component of the consumption aggregate. The value of nonpurchased food was based on the household's own estimation or was imputed by interviewers at the prevalent local prices if a household had trouble doing so. Food items given as gifts to other households were excluded to avoid double counting because they would be included in the recipient's consumption. Expenditures on alcoholic drinks and tobacco were classified as separate categories, as were expenditures on eating outside/restaurants.

### **Nonfood Expenses**

9. In a separate module of the questionnaire (module 13B), the household was asked to recall its expenditures on a number of nonfood expenses such as clothing, household cleaning supplies, tobacco, household articles, entertainment, and services. Since these expenses generally take place at different intervals, households were asked to recall their expenditure on these items using two different reference periods, the previous month and 12 months. When included in the consumption aggregate, all these expenses were adjusted for expression in monthly terms.

### **Education**

10. Expenditure for education includes all education-related expenses from preschool to higher education: school fees, uniforms, textbooks, meals and lodging, transportation, gifts to teachers and services to school, private tutoring, and other educational expenses. Educational expenses over an entire academic year were recorded and divided by 12 to get monthly expenses.

## **Health**

11. The questionnaire has an extensive health module (module 6), tracking monthly and yearly expenditures for medicine, lab work, hospitalization charges, gifts to medical personnel, transportation, and other health-related costs. Health expenses in reactions to a shock, for which extraordinary means may be used, are excluded.

## **Utilities**

12. Information on utility expenses was collected as part of the dwelling module (module 1) as well as in the nonfood module (module 13B). It includes electricity, gas, telephone (landline, mobile, and public phones), water and fuels (firewood, kerosene and diesel). The value reported by the household was used. The questionnaire asked for the typical monthly expenditure during winter. The average monthly expenditure was calculated by taking the mean of the survey month and winter typical month.

## **Durable Goods**

13. Purchases of durable items were not directly included in the consumption aggregate but can be estimated for each category in terms of the monetary benefit obtained by the household from the use of the item over time. The survey collected information on the ownership of a number of durable goods, the age of the items, and their current value. Although each item was not a homogeneous category, these data were used to estimate the relationship between an item's value and its age. The use value was estimated for durable goods with different life spans and depreciation rates.

## **Housing**

14. By definition, each household lives in a dwelling, and its welfare is influenced by the home's characteristics and comforts. However, expressing this benefit consistently in monetary terms proved particularly difficult. The benefit a household derives from living in a certain dwelling is usually estimated from the dwelling's rental value. However, in Bulgaria the percentage of households that rent their residence is minimal (below 10 percent), and an actual rental market does not exist. Since including values only for households that reported a rental value would distort the consumption aggregate, housing expenses were excluded from the analysis.

## **Correcting for Household Size and Price Differences**

15. After aggregation of the consumption components, two important corrections had to be made: adjustment for household size and adjustment for regional price differences. Poverty estimates are sensitive to different assumptions regarding equivalence scales and economies of size. To account for differences in household size and composition, welfare indicators are measured per adult equivalent based on the EUROSTAT equivalence scale (1, 0.5, 0.3).

16. Nominal expenditures are affected by substantial price differences between urban and rural areas and between different geographic regions. Because regional price indexes do not exist (monthly price indexes are calculated for all Bulgaria and based only on prices of some cities), this adjustment was undertaken using information collected in the household survey (using the budget share collected in the survey as well as the implicit prices or unit values of food items). The price index was obtained calculating a Paasche price index constructed at the level of primary sampling units, where five households were interviewed in the same time period. A primary sampling unit index was preferred to a household Paasche index to avoid the effect of outliers in some households and exceptional cases of households that spend most of their food budget eating outside the home. Average budget shares for each primary sampling unit were used as weights for the ratio of median prices paid by households in each primary sampling unit, and the median national prices. Median prices were preferred to average prices to avoid outlier effects. Since budget shares are already bound in values between 0 and 1, they were averaged and weighted by household size. Median national prices, calculated applying household weights, were also computed.

17. The report used aggregate consumption expenditures constructed using the framework described above for 2003 and 2007 MTHS data to compare welfare across households, space, and time. To ensure comparability across time, each component of current consumption was adjusted using national and monthly CPI in 2007 prices. Moreover, regional variations in prices of goods and services (i.e., cost of living) were accounted for to facilitate welfare comparison across geographic regions. Because food is the most important item in the consumption bundle of the poor, regional food price indexes were used, constructed from the unit-value information collected in the survey to account for food price variability.

### **Estimation of Poverty Lines**

18. Analytic work on the poverty profile involves defining a suitable poverty line that echoes an absolute minimum of consumption needed to meet basic needs. Multiple poverty lines can be used to distinguish not only different levels of poverty but also different aspects of poverty. For each type of welfare chosen, there are two main ways of setting poverty lines—relative and absolute. *Relative poverty lines* are defined, as the name implies, in relation to a country's overall distribution of the welfare measure (e.g., consumption). For example, in Bulgaria the poverty line was set at 60 percent of the mean income.<sup>13</sup> *Absolute poverty lines* are anchored in some absolute standard of what households or individuals should be able to count on to meet their basic needs. For monetary measures, these absolute poverty lines are often based on estimates of the cost of basic food needs, that is, the cost of a nutritional basket considered minimal for the health of a typical family, to which a provision is added for basic nonfood needs. Accordingly, in this report the estimated set of poverty lines guarantees a minimum nutritional intake of 2,100 kilocalories per capita per day (recommended by United Nations and Bulgarian nutrition experts), with allowances for nonfood needs,.

19. For certain segments of Bulgaria's population still striving to meet their basic needs, an absolute rather than a relative poverty line is more pertinent and is therefore employed. The

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<sup>13</sup> The European Union (Laeken) poverty lines are also set at 60 percent of the national median household income after taxes and adjustment for household size and composition.

absolute concept of poverty is consistent with the literature in which poverty is seen as the inability to meet basic material needs (Ravallion 1994). Fixed poverty lines, as described below, are therefore used instead of relative poverty lines to measure poverty over time. Unlike the relative poverty lines, these lines are grounded in the consumption behavior of the poorest two deciles of Bulgaria's population and allow monitoring of changes in poverty over time.

20. As with most poverty assessments, the cost of basic needs (CBN) method was used to determine two absolute poverty lines: extreme poverty and total poverty. Following the CBN framework, *extreme* and *total* poverty lines were constructed, using an observed consumption basket of the poor, based on the 2007 MTHS data. The absolute poverty lines, derived on the basis of 2007 MTHS, were adjusted for inflation to allow comparisons over time. The two lines separate, respectively, the *very poor* and *(total) poor* from the rest of the population. Each poverty line includes a food component (common to both lines), plus an allowance for essential nonfoods and services (different for each line).

21. The *food component* of the poverty line was determined as the cost of a food basket priced at the unit values obtained from the surveys, with quantities scaled up proportionally to give a caloric intake of 2,100 kilocalories per capita per day. The caloric amount was based on Bulgaria's nationally recommended nutritional requirement. The resulting food component of the poverty line, expressed in the 2007 prices was estimated at BGN 90 a month per adult equivalent.

22. The *lower or extreme poverty line* was determined by summing up the food component of the poverty line with the amount of nonfood and services typically consumed by those whose total consumption equals the food poverty line. If households that can cover only their food requirements gave up food to buy other consumption items, these nonfood items could be considered basic necessities. Thus, the *extreme poverty line* is the sum of food and other nonfood basic necessities. Individuals are classified as very poor if their consumption per adult equivalent is below the extreme poverty line. The lower poverty line, expressed in 2007 prices, was estimated at BGN 145 a month per adult equivalent.

23. The *upper or total poverty line* was determined by adding to the food component the amount spent on nonfood and services by households whose food consumption equals the food component of the poverty line. In this variant, the definition of nonfood necessities is broader. Individuals are classified as (total) poor if their consumption per adult equivalent is lower than the total poverty line. The upper poverty line, expressed in 2007 prices, was estimated at BGN 185 a month per adult equivalent.

24. Finally, to allow cross-country comparisons and monitor Bulgaria's Millennium Development Goal (MDG) on poverty, the *international poverty lines* was used, US\$2.15 and US\$4.30 per capita per day at constant PPP relevant for temperate zone countries such as Bulgaria. After adjustments using the newly developed PPP conversion factors, the larger poverty line was used to measure overall poverty, while the smaller one was a cut-off point for extreme poverty.<sup>14</sup> Accordingly, expressed in 2007 local prices, these poverty lines were BGN

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<sup>14</sup> The PPP conversions, based on the results of the 2005 International Comparison Program (ICP), are used (World Bank 2007). According to the results of the ICP, the PPP between Bulgaria Leva (BGN) and the U.S.

61 per capita per month (for US\$2.15/day) and BGN 122 per capita per month (for US\$4.30/day).

## Poverty Indexes

25. The final step in poverty measurement is choosing a mathematical function that translates the comparison of the well-being indicator and the chosen poverty line into one aggregate poverty number for the population as a whole or population subgroups. This report used the Foster-Greer-Thorbecke class of poverty measures: the headcount ratio, poverty gap, and squared poverty gap as preferred poverty indexes (Foster, Greer, Thorbecke 1984). The three most commonly used measures are:

*Incidence of poverty (headcount ratio).* This is the share of the population whose chosen measure of welfare (e.g., income or consumption) is below the absolute poverty line, that is, the share of the population that cannot afford to buy a basic basket of goods.

*Depth of poverty (poverty gap).* This provides information regarding how far off households are from the poverty line. This measure captures the mean aggregate income or consumption shortfall relative to the poverty line across the whole population. It is obtained by adding up all the shortfalls of the poor and dividing the total by the population.

*Poverty severity (squared poverty gap).* This takes into account not only the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor by placing a higher weight on households farther away from the poverty line.

26. Poverty incidence is widely used, but the depth and severity measures of poverty complement the incidence of poverty and provide insights on how far the poor are from the socially acceptable level of subsistence, namely, from the poverty line. Some groups may have a high poverty incidence but low poverty gap (if most of them are just below the poverty line), while other groups may have a low poverty incidence but a high poverty gap (when most individuals below the poverty line experience extremely low levels of consumption). The types of interventions needed to help the two groups are therefore likely to be different.

27. Finally, all estimations incorporate the survey design in computing the standard errors. In addition to reporting poverty rates, wherever deemed useful, the poverty profile also presents the number of people who are poor and very poor at a given point in time.

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dollar, a base currency, was 0.6. Therefore, BGN 0.6 is needed to purchase the same quantity of a specific good or service in Bulgaria as \$1 will purchase in the United States.

**Table A.1: Composition of Consumption**

|                             | <i>2003</i>        |                 |                |                |                |                  |                 |                  |               |              |
|-----------------------------|--------------------|-----------------|----------------|----------------|----------------|------------------|-----------------|------------------|---------------|--------------|
| <i>Consumption quintile</i> | <i>Food</i>        | <i>Food out</i> | <i>Nonfood</i> | <i>Alcohol</i> | <i>Tobacco</i> | <i>Utilities</i> | <i>Durables</i> | <i>Education</i> | <i>Health</i> | <i>Total</i> |
| Quintile 1 (poorest )       | 54                 | 3               | 7.4            | 2              | 4.9            | 19               | 2.2             | 1.5              | 5.6           | 100          |
| Quintile 2                  | 44                 | 5.2             | 12             | 2.9            | 4.2            | 21               | 3.5             | 2.3              | 5.5           | 100          |
| Quintile 3                  | 39                 | 6.4             | 16             | 3.1            | 3.8            | 20               | 4               | 2.9              | 4.8           | 100          |
| Quintile 4                  | 32                 | 8.9             | 19             | 3              | 4.1            | 20               | 5               | 3.7              | 4.3           | 100          |
| Quintile 5 (richest)        | 23                 | 12              | 28             | 2              | 3              | 18               | 5.2             | 4.5              | 3.5           | 100          |
| Total                       | 38                 | 7.1             | 17             | 2.6            | 4              | 20               | 4               | 3                | 4.7           | 100          |
|                             | <i>2007</i>        |                 |                |                |                |                  |                 |                  |               |              |
| Quintile 1 (poorest )       | 51                 | 2.8             | 8.1            | 1.6            | 5              | 21               | 2.6             | 1.1              | 7.1           | 100          |
| Quintile 2                  | 44                 | 5.3             | 13             | 2.1            | 4.9            | 20               | 3.8             | 1.7              | 6.1           | 100          |
| Quintile 3                  | 39                 | 8               | 16             | 2.4            | 4.8            | 18               | 4.5             | 2.5              | 4.9           | 100          |
| Quintile 4                  | 33                 | 11              | 20             | 2.2            | 4.7            | 17               | 5.6             | 3.4              | 3.3           | 100          |
| Quintile 5 (richest)        | 26                 | 15              | 25             | 1.8            | 4.1            | 15               | 5.6             | 4.9              | 2.7           | 100          |
| Total                       | 39                 | 8.5             | 16             | 2              | 4.7            | 18               | 4.4             | 2.7              | 4.8           | 100          |
|                             | <i>Rural, 2003</i> |                 |                |                |                |                  |                 |                  |               |              |
| <i>Consumption quintile</i> | <i>Food</i>        | <i>Food out</i> | <i>Nonfood</i> | <i>Alcohol</i> | <i>Tobacco</i> | <i>Utilities</i> | <i>Durables</i> | <i>Education</i> | <i>Health</i> | <i>Total</i> |
| Quintile 1 (poorest )       | 60                 | 3.2             | 6.3            | 2.5            | 4.6            | 16               | 1.4             | 1.3              | 4.9           | 100          |
| Quintile 2                  | 50                 | 4.2             | 9.8            | 3.8            | 4.6            | 18               | 2.7             | 1.7              | 5.1           | 100          |
| Quintile 3                  | 46                 | 5.4             | 13             | 3.8            | 3.8            | 18               | 3               | 2                | 4.6           | 100          |
| Quintile 4                  | 38                 | 5.9             | 19             | 4.1            | 4.2            | 18               | 4.1             | 3                | 4.1           | 100          |
| Quintile 5 (richest)        | 28                 | 9               | 25             | 3.1            | 2.9            | 19               | 5.2             | 3.1              | 4.3           | 100          |
| Total                       | 48                 | 4.9             | 12             | 3.4            | 4.2            | 18               | 2.8             | 2                | 4.7           | 100          |
|                             | <i>Urban, 2003</i> |                 |                |                |                |                  |                 |                  |               |              |
| Quintile 1 (poorest )       | 50                 | 2.9             | 8.2            | 1.6            | 5.2            | 21               | 2.8             | 1.6              | 6.1           | 100          |
| Quintile 2                  | 40                 | 5.8             | 13             | 2.4            | 4              | 22               | 4               | 2.6              | 5.7           | 100          |
| Quintile 3                  | 35                 | 7               | 18             | 2.6            | 3.8            | 21               | 4.5             | 3.4              | 5             | 100          |
| Quintile 4                  | 29                 | 10              | 20             | 2.6            | 4              | 21               | 5.3             | 3.9              | 4.4           | 100          |
| Quintile 5 (richest)        | 22                 | 12              | 29             | 1.9            | 3              | 18               | 5.2             | 4.7              | 3.4           | 100          |
| Total                       | 34                 | 8.1             | 19             | 2.2            | 3.9            | 21               | 4.5             | 3.4              | 4.8           | 100          |
|                             | <i>Rural, 2007</i> |                 |                |                |                |                  |                 |                  |               |              |

| <i>Consumption quintile</i> | <i>Food</i> | <i>Food out</i> | <i>Nonfood</i> | <i>Alcohol</i> | <i>Tobacco</i> | <i>Utilities</i> | <i>Durables</i> | <i>Education</i> | <i>Health</i> | <i>Total</i> |
|-----------------------------|-------------|-----------------|----------------|----------------|----------------|------------------|-----------------|------------------|---------------|--------------|
| Quintile 1 (poorest )       | 55          | 2               | 6.9            | 2.1            | 5              | 18               | 2.4             | 0.83             | 6.6           | 100          |
| Quintile 2                  | 50          | 3.4             | 11             | 2.5            | 5.4            | 16               | 3.6             | 1.5              | 5.8           | 100          |
| Quintile 3                  | 46          | 5.6             | 12             | 2.8            | 5.2            | 16               | 3.7             | 2.7              | 5.5           | 100          |
| Quintile 4                  | 39          | 8.9             | 17             | 3.1            | 5.2            | 15               | 4.5             | 3.7              | 3.4           | 100          |
| Quintile 5 (richest)        | 30          | 12              | 24             | 2.4            | 4.1            | 13               | 4.6             | 4.9              | 3.2           | 100          |
| Total                       | 47          | 5.3             | 12             | 2.5            | 5.1            | 16               | 3.5             | 2.3              | 5.3           | 100          |
| <i>Urban, 2007</i>          |             |                 |                |                |                |                  |                 |                  |               |              |
| Quintile 1 (poorest )       | 48          | 3.3             | 8.9            | 1.3            | 4.9            | 23               | 2.8             | 1.2              | 7.4           | 100          |
| Quintile 2                  | 41          | 6.3             | 14             | 1.8            | 4.5            | 21               | 3.9             | 1.8              | 6.2           | 100          |
| Quintile 3                  | 36          | 9.2             | 17             | 2.2            | 4.7            | 19               | 4.9             | 2.5              | 4.7           | 100          |
| Quintile 4                  | 32          | 12              | 21             | 1.9            | 4.6            | 17               | 5.9             | 3.3              | 3.2           | 100          |
| Quintile 5 (richest)        | 25          | 16              | 25             | 1.7            | 4.1            | 15               | 5.8             | 4.9              | 2.6           | 100          |
| Total                       | 35          | 9.8             | 18             | 1.8            | 4.5            | 19               | 4.8             | 2.9              | 4.6           | 100          |

*Sources: MTHS data, 2003 and 2007*

**Table A.2: Descriptive Statistics (Mean), Selected Variables**

| Variable                                     | 2003     |       |       | 2007     |       |       | Change (%) |       |       |
|--|----------|-------|-------|----------|-------|-------|------------|-------|-------|
|  | Bulgaria | Rural | Urban | Bulgaria | Rural | Urban | Bulgaria   | Rural | Urban |
| Per adult equivalent consumption (BGN, 2007) | 339.3    | 273.4 | 368.9 | 410.3    | 344.1 | 437.3 | 20.9       | 25.8  | 18.5  |
| Number of adults (age>18) and age<65)        | 2.09     | 1.96  | 2.16  | 2.26     | 2.18  | 2.29  | 7.7        | 11.4  | 6.1   |
| Number of children (age<=18)                 | 0.77     | 0.76  | 0.77  | 0.69     | 0.75  | 0.66  | -10.2      | -0.7  | -14.0 |
| Number of elderly (age>=65)                  | 0.60     | 0.81  | 0.50  | 0.64     | 0.83  | 0.57  | 8.1        | 2.9   | 13.5  |
| Household size                               | 3.46     | 3.52  | 3.43  | 3.56     | 3.73  | 3.49  | 3.0        | 6.0   | 1.8   |
| Number of living rooms                       | 2.97     | 3.38  | 2.78  | 3.05     | 3.53  | 2.85  | 2.6        | 4.5   | 2.4   |
| Age  | 41.7     | 45.7  | 39.9  | 42.8     | 45.7  | 41.7  | 2.6        | -0.1  | 4.3   |
| Education (years )                           | 11.36    | 9.03  | 12.41 | 11.25    | 9.09  | 12.13 | -1.0       | 0.7   | -2.3  |
| Gender (%)                                   | 48.3     | 48.1  | 48.5  | 48.0     | 49.5  | 47.4  | -0.3       | 1.4   | -1.0  |
| Higher education (%)                         | 16.0     | 4.7   | 21.1  | 16.0     | 5.0   | 20.5  | 0.0        | 0.2   | -0.6  |
| Secondary education (%)                      | 38.3     | 27.9  | 42.9  | 40.8     | 29.4  | 45.4  | 2.5        | 1.5   | 2.5   |
| Basic education (%)                          | 39.1     | 58.7  | 30.3  | 37.5     | 58.2  | 29.1  | -1.6       | -0.5  | -1.2  |
| Below initial or no education (%)            | 6.6      | 8.6   | 5.7   | 5.7      | 7.5   | 5.0   | -0.9       | -1.2  | -0.7  |
| Urban (%)                                    | 69.0     |       |       | 71.1     |       |       | 2.1        |       | ?     |
| Cannot read or write (%)                     | 2.5      | 5.0   | 1.3   | 0.8      | 1.6   | 0.4   | -1.7       | -3.4  | -0.9  |
| Employed, formal sector (%)                  | 84.5     | 77.4  | 86.5  | 90.9     | 85.0  | 92.5  | 6.5        | 7.6   | 6.0   |
| Unemployed (%)                               | 10.5     | 10.4  | 10.5  | 6.2      | 7.3   | 5.7   | -4.3       | -3.1  | -4.8  |
| Good health (%)                              | 88.2     | 84.4  | 89.9  | 88.0     | 84.5  | 89.4  | -0.2       | 0.1   | -0.5  |
| Health Insurance (%)                         | 82.7     | 75.8  | 85.9  | 89.1     | 83.2  | 91.5  | 6.4        | 7.4   | 5.7   |
| Certified disability (%)                     | 7.7      | 7.8   | 7.7   | 8.4      | 8.2   | 8.5   | 0.7        | 0.4   | 0.8   |
| Hot water (%)                                | 65.4     | 38.8  | 77.3  | 86.0     | 71.9  | 91.7  | 20.6       | 33.0  | 14.4  |
| Leaky roof (%)                               | 23.1     | 27.3  | 21.2  | 15.6     | 19.7  | 13.9  | -7.5       | -7.6  | -7.3  |
| Broken windows (%)                           | 14.2     | 17.8  | 12.6  | 9.6      | 15.2  | 7.4   | -4.6       | -2.6  | -5.2  |
| Own home (%)                                 | 86.7     | 89.8  | 85.2  | 90.8     | 93.6  | 89.7  | 4.1        | 3.8   | 4.4   |
| Unpaid bills (%)                             | 19.2     | 14.5  | 21.3  | 13.8     | 8.9   | 15.8  | -5.4       | -5.6  | -5.5  |
| Television (%)                               | 88.0     | 76.6  | 93.1  | 97.5     | 95.2  | 98.5  | 9.5        | 18.6  | 5.3   |
| Microwave oven (%)                           | 20.6     | 8.9   | 25.8  | 38.9     | 19.8  | 46.7  | 18.3       | 10.9  | 20.8  |
| Refrigerator (%)                             | 89.7     | 82.6  | 92.9  | 92.6     | 86.2  | 95.3  | 2.9        | 3.6   | 2.3   |

| <i>Variable</i>                             | <i>Bulgaria</i> | <i>Rural</i> | <i>Urban</i> | <i>Bulgaria</i> | <i>Rural</i> | <i>Urban</i> | <i>Bulgaria</i> | <i>Rural</i> | <i>Urban</i> |
|---|-----------------|--------------|--------------|-----------------|--------------|--------------|-----------------|--------------|--------------|
| Washing machine (%)                         | 58.9            | 34.2         | 70.0         | 84.4            | 71.0         | 89.9         | 25.6            | 36.8         | 19.9         |
| Dish washer (%)                             | 2.0             | 0.3          | 2.8          | 2.4             | 0.3          | 3.3          | 0.4             | 0.0          | 0.5          |
| Computer (%)                                | 11.9            | 1.6          | 16.5         | 28.3            | 10.5         | 35.6         | 16.4            | 8.9          | 19.0         |
| Telephone (%)                               | 76.1            | 63.6         | 81.8         | 64.8            | 51.3         | 70.2         | -11.4           | -12.2        | -11.6        |
| Mobile phone (%)                            | 41.4            | 23.3         | 49.6         | 75.3            | 61.5         | 80.8         | 33.9            | 38.3         | 31.3         |
| Difficulty buying food (%)                  | 31.3            | 36.6         | 28.9         | 29.2            | 34.7         | 26.9         | -2.1            | -1.8         | -2.0         |
| Difficulty buying clothing (%)              | 52.9            | 57.9         | 50.6         | 42.7            | 49.8         | 39.8         | -10.2           | -8.1         | -10.8        |
| Difficulty obtaining electricity (%)        | 28.6            | 28.1         | 28.9         | 36.5            | 39.0         | 35.5         | 7.9             | 10.9         | 6.6          |
| Difficulty obtaining heating (%)            | 42.1            | 37.3         | 44.3         | 41.3            | 40.9         | 41.4         | -0.9            | 3.6          | -2.9         |
| Difficulty obtaining health care (%)        | 34.9            | 40.3         | 32.5         | 29.5            | 37.4         | 26.3         | -5.4            | -3.0         | -6.1         |
| Difficulty meeting educational expenses (%) | 15.8            | 18.2         | 14.8         | 11.6            | 12.5         | 11.2         | -4.2            | -5.7         | -3.5         |
| Difficulty accessing loan (%)               | 9.0             | 7.7          | 9.6          | 7.0             | 3.3          | 8.5          | -2.0            | -4.4         | -1.1         |

*Sources:* MTHS data, 2003 and 2007

**Table A.3: Consumption Regressions**

|  | 2007        |           |             |           | 2003        |           |             |           |
|--|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|
|  | Urban       |           | Rural       |           | Urban       |           | Rural       |           |
| <i>Household characteristics</i>         | <i>coef</i> | <i>se</i> | <i>coef</i> | <i>se</i> | <i>coef</i> | <i>se</i> | <i>coef</i> | <i>se</i> |
| Log of household size                    | 0.074       | 0.07      | -0.116      | 0.11      | -0.122      | 0.09      | 0.118       | 0.12      |
| Log of household size squared            | -0.078**    | 0.04      | 0.055       | 0.05      | -0.007      | 0.05      | -0.081      | 0.06      |
| Share of children 0-6                    | (dropped)   |           | (dropped)   |           | (dropped)   |           | (dropped)   |           |
| Share of children 7-16                   | 0.404***    | 0.10      | 0.375**     | 0.19      | 0.123       | 0.13      | 0.193       | 0.22      |
| Share of male adults                     | 0.455***    | 0.10      | 0.406**     | 0.18      | 0.047       | 0.14      | 0.376       | 0.24      |
| Share of female adults                   | 0.395***    | 0.11      | 0.728***    | 0.20      | 0.108       | 0.15      | 0.281       | 0.25      |
| Share of elderly (>=60)                  | 0.073       | 0.11      | 0.333*      | 0.20      | -0.330**    | 0.16      | 0.099       | 0.25      |
| <i>Regions</i>                           |             |           |             |           |             |           |             |           |
| NC                                       | (dropped)   |           | (dropped)   |           | (dropped)   |           | (dropped)   |           |
| NE                                       | 0.031       | 0.03      | 0.079       | 0.05      | -0.026      | 0.05      | -0.036      | 0.06      |
| NW                                       | -0.088*     | 0.05      | -0.018      | 0.06      | -0.000      | 0.06      | 0.025       | 0.06      |
| SC                                       | -0.003      | 0.03      | 0.132***    | 0.05      | -0.112**    | 0.04      | 0.035       | 0.05      |
| SE                                       | -0.004      | 0.04      | -0.030      | 0.08      | 0.042       | 0.05      | 0.190***    | 0.07      |
| SW                                       | 0.075**     | 0.03      | 0.135**     | 0.06      | 0.141***    | 0.04      | 0.182***    | 0.06      |
| <i>Agricultural land area</i>            |             |           |             |           |             |           |             |           |
| 0 DKA                                    | (dropped)   |           | (dropped)   |           | (dropped)   |           | (dropped)   |           |
| 0-1 DKA                                  | 0.013       | 0.05      | -0.002      | 0.05      | -0.012      | 0.04      | 0.022       | 0.08      |
| 1-4 DKA                                  | 0.122**     | 0.05      | 0.059       | 0.05      | 0.080       | 0.05      | 0.073       | 0.08      |
| 4-10 DKA                                 | 0.020       | 0.05      | 0.044       | 0.06      | -0.002      | 0.05      | 0.144*      | 0.08      |
| 10-20 DKA                                | 0.098**     | 0.05      | 0.103*      | 0.06      | 0.123**     | 0.05      | 0.203**     | 0.08      |
| >20 DKA                                  | 0.078*      | 0.04      | 0.172***    | 0.06      | 0.162***    | 0.05      | 0.325***    | 0.09      |
| <i>Characteristics of household head</i> |             |           |             |           |             |           |             |           |
| Log of household head's age              | -0.281***   | 0.05      | -0.347***   | 0.09      | -0.204***   | 0.07      | -0.100      | 0.12      |
| <i>Gender</i>                            |             |           |             |           |             |           |             |           |

|   |           |      |           |      |           |      |           |      |
|---|-----------|------|-----------|------|-----------|------|-----------|------|
| Male                                      | (dropped) |      | (dropped) |      | (dropped) |      | (dropped) |      |
| Female                                    | -0.100*** | 0.03 | -0.126**  | 0.05 | -0.306*** | 0.04 | -0.094    | 0.06 |
| <i>Education</i>                          |           |      |           |      |           |      |           |      |
| Higher                                    | (dropped) |      | (dropped) |      | (dropped) |      | (dropped) |      |
| Secondary                                 | -0.177*** | 0.02 | -0.089    | 0.07 | -0.210*** | 0.03 | -0.106    | 0.08 |
| Basic                                     | -0.322*** | 0.03 | -0.257*** | 0.07 | -0.400*** | 0.05 | -0.268*** | 0.08 |
| None or incomplete                        | -0.801*** | 0.15 | -0.421*** | 0.14 | -0.542**  | 0.23 | -0.338**  | 0.15 |
| <i>Employment</i>                         |           |      |           |      |           |      |           |      |
| Hired, private                            | (dropped) |      | (dropped) |      | (dropped) |      | (dropped) |      |
| Hired, public                             | 0.015     | 0.02 | -0.070    | 0.05 | 0.074**   | 0.03 | -0.054    | 0.06 |
| Self-employed, nonfarm                    | 0.302***  | 0.04 | 0.242***  | 0.08 | 0.324***  | 0.04 | 0.071     | 0.08 |
| Self-employed, farming                    | 0.032     | 0.05 | 0.005     | 0.04 | 0.031     | 0.06 | -0.018    | 0.06 |
| <i>Additional regressors</i>              |           |      |           |      |           |      |           |      |
| Ethnicity = Bulgarian                     | (dropped) |      | (dropped) |      | (dropped) |      | (dropped) |      |
| Ethnicity = Turk                          | -0.278*** | 0.05 | -0.223*** | 0.05 | -0.262*** | 0.08 | -0.058    | 0.05 |
| Ethnicity = Roma                          | -0.256*** | 0.06 | -0.393*** | 0.07 | -0.693*** | 0.11 | -0.457*** | 0.10 |
| Ethnicity = other                         | 0.007     | 0.11 | -0.132**  | 0.07 | -0.205    | 0.14 | -0.423*   | 0.23 |
| Disability_certified                      | -0.050    | 0.06 | 0.046     | 0.08 | 0.027     | 0.07 | -0.005    | 0.07 |
| Health_insur                              | 0.254***  | 0.05 | 0.214***  | 0.05 | 0.186***  | 0.05 | 0.161***  | 0.05 |
| _cons                                     | 6.741***  | 0.17 | 6.741***  | 0.35 | 6.780***  | 0.24 | 5.708***  | 0.42 |
| Number of observations                    | 1,642     |      | 682       |      | 1,107     |      | 517       |      |
| Adjusted R2                               | 0.289     |      | 0.295     |      | 0.355     |      | 0.282     |      |
| <i>Sources: MTHS data, 2003 and 2007</i>  |           |      |           |      |           |      |           |      |
| <i>Note: .01 - ***; .05 - **; .1 - *;</i> |           |      |           |      |           |      |           |      |

## ANNEX B: SUPPLEMENTARY DATA

**Table B.1: Overall Poverty**

|                               | <i>Headcount Rate(P0)</i> |             |               | <i>Poverty Gap(P1)</i> |             |               | <i>Squared Poverty Gap(P2)</i> |             |               |
|-------------------------------|---------------------------|-------------|---------------|------------------------|-------------|---------------|--------------------------------|-------------|---------------|
|                               | <i>2007</i>               | <i>2003</i> | <i>Change</i> | <i>2007</i>            | <i>2003</i> | <i>Change</i> | <i>2007</i>                    | <i>2003</i> | <i>Change</i> |
| <i>Poverty Line = BGN 185</i> |                           |             |               |                        |             |               |                                |             |               |
| Urban                         | 8.3                       | 16.5        | -8.1          | 1.8                    | 4.6         | -2.8          | 0.6                            | 2.0         | -1.3          |
| Rural                         | 14.3                      | 27.8        | -13.5         | 3.6                    | 7.7         | -4.1          | 1.3                            | 3.2         | -1.9          |
| Total                         | 10.1                      | 20.0        | -9.9          | 2.3                    | 5.6         | -3.2          | 0.8                            | 2.3         | -1.5          |
| <i>Poverty Line = BGN 145</i> |                           |             |               |                        |             |               |                                |             |               |
| Urban                         | 3.6                       | 9.2         | -5.6          | 0.7                    | 2.5         | -1.7          | 0.2                            | 1.0         | -0.8          |
| Rural                         | 6.9                       | 15.2        | -8.2          | 1.6                    | 4.0         | -2.3          | 0.6                            | 1.6         | -1.0          |
| Total                         | 4.5                       | 11.0        | -6.5          | 1.0                    | 2.9         | -1.9          | 0.3                            | 1.2         | -0.8          |

Sources: MTHS data, 2003 and 2007

**Table B.2: Poverty by Geographic Regions**

|                               | <i>Poverty Headcount Rate</i> |             |               | <i>Distribution of Poor</i> |             |               | <i>Distribution of Population</i> |             |               |
|-------------------------------|-------------------------------|-------------|---------------|-----------------------------|-------------|---------------|-----------------------------------|-------------|---------------|
|                               | <i>2007</i>                   | <i>2003</i> | <i>Change</i> | <i>2007</i>                 | <i>2003</i> | <i>Change</i> | <i>2007</i>                       | <i>2003</i> | <i>Change</i> |
| <i>Poverty Line = BGN 185</i> |                               |             |               |                             |             |               |                                   |             |               |
| Urban                         | 8.3                           | 16.5        | -8.1          | 58.9                        | 56.9        | 2.0           | 71.1                              | 69.0        | 2.1           |
| Rural                         | 14.3                          | 27.8        | -13.5         | 41.1                        | 43.1        | -2.0          | 28.9                              | 31.0        | -2.1          |
| NC                            | 8.3                           | 20.2        | -11.9         | 12.9                        | 15.0        | -2.1          | 15.6                              | 14.8        | 0.9           |
| NE                            | 12.7                          | 25.0        | -12.3         | 22.4                        | 20.9        | 1.5           | 17.7                              | 16.7        | 1.0           |
| NW                            | 14.8                          | 26.2        | -11.4         | 10.6                        | 9.2         | 1.4           | 7.2                               | 7.0         | 0.2           |
| SC                            | 10.9                          | 22.2        | -11.4         | 27.3                        | 28.0        | -0.8          | 25.3                              | 25.2        | 0.1           |
| SE                            | 7.5                           | 19.1        | -11.6         | 5.7                         | 9.7         | -4.1          | 7.6                               | 10.2        | -2.6          |
| SW                            | 8.0                           | 13.1        | -5.1          | 21.1                        | 17.2        | 3.9           | 26.6                              | 26.1        | 0.4           |
| Total                         | 10.1                          | 20.0        | -9.9          | 100                         | 100         | 0.0           | 100                               | 100         | 0.0           |
| <i>Poverty Line =BGN 145</i>  |                               |             |               |                             |             |               |                                   |             |               |
| Urban                         | 3.6                           | 9.2         | -5.6          | 56.0                        | 57.3        | -1.3          | 71.1                              | 69.0        | 2.1           |
| Rural                         | 6.9                           | 15.2        | -8.2          | 44.0                        | 42.7        | 1.3           | 28.9                              | 31.0        | -2.1          |
| NC                            | 3.6                           | 12.0        | -8.4          | 12.3                        | 16.1        | -3.8          | 15.6                              | 14.8        | 0.9           |
| NE                            | 5.7                           | 13.6        | -7.9          | 22.1                        | 20.6        | 1.5           | 17.7                              | 16.7        | 1.0           |
| NW                            | 7.8                           | 13.8        | -6.0          | 12.3                        | 8.8         | 3.6           | 7.2                               | 7.0         | 0.2           |
| SC                            | 4.4                           | 13.4        | -8.9          | 24.7                        | 30.6        | -5.9          | 25.3                              | 25.2        | 0.1           |
| SE                            | 3.3                           | 11.3        | -8.0          | 5.5                         | 10.4        | -4.9          | 7.6                               | 10.2        | -2.6          |
| SW                            | 3.9                           | 5.7         | -1.8          | 23.0                        | 13.6        | 9.5           | 26.6                              | 26.1        | 0.4           |
| Total                         | 4.5                           | 11.0        | -6.5          | 100                         | 100         | 0.0           | 100                               | 100         | 0.0           |

Sources: MTHS data, 2003 and 2007

**Table B.3: Poverty by the Status of Employment.**

|                               | <i>Poverty Headcount Rate</i> |      |        | <i>Distribution of the Poor</i> |      |        | <i>Distribution of Population</i> |      |        |
|-------------------------------|-------------------------------|------|--------|---------------------------------|------|--------|-----------------------------------|------|--------|
|                               | 2007                          | 2003 | Change | 2007                            | 2003 | Change | 2007                              | 2003 | Change |
| <i>Poverty Line = BGN 185</i> |                               |      |        |                                 |      |        |                                   |      |        |
| Hired, Private                | 3.4                           | 10.1 | -6.7   | 46.8                            | 45.3 | 1.5    | 56.0                              | 44.6 | 11.4   |
| Hired, Public                 | 4.1                           | 9.6  | -5.5   | 23.2                            | 26.9 | -3.7   | 22.9                              | 28.0 | -5.1   |
| Self-employed, Nonfarm        | 1.9                           | 12.8 | -10.9  | 2.7                             | 25.8 | -23.1  | 5.9                               | 20.1 | -14.1  |
| Self-employed, Farming        | 7.2                           | 2.6  | 4.6    | 27.3                            | 1.9  | 25.3   | 15.2                              | 7.4  | 7.8    |
| Total                         | 10.1                          | 20.0 | -9.9   | 100                             | 100  | 0.0    | 100                               | 100  | 0.0    |
| <i>Poverty Line =BGN 145</i>  |                               |      |        |                                 |      |        |                                   |      |        |
| Hired, Private                | 1.3                           | 5.4  | -4.1   | 50.6                            | 51.2 | -0.5   | 56.0                              | 44.6 | 11.4   |
| Hired, Public                 | 1.4                           | 4.9  | -3.5   | 21.0                            | 29.1 | -8.1   | 22.9                              | 28.0 | -5.1   |
| Self-employed, Nonfarm        | 1.6                           | 4.1  | -2.5   | 6.2                             | 17.4 | -11.3  | 5.9                               | 20.1 | -14.1  |
| Self-employed, Farming        | 2.2                           | 1.5  | 0.7    | 22.2                            | 2.3  | 19.9   | 15.2                              | 7.4  | 7.8    |
| Total                         | 4.5                           | 11.0 | -6.5   | 100                             | 100  | 0.0    | 100                               | 100  | 0.0    |

Sources: MTHS data, 2003 and 2007

**Table B.4: Poverty by Age Groups**

|                               | <i>Poverty Headcount Rate</i> |      |        | <i>Distribution of the Poor</i> |      |        | <i>Distribution of Population</i> |      |        |
|-------------------------------|-------------------------------|------|--------|---------------------------------|------|--------|-----------------------------------|------|--------|
|                               | 2007                          | 2003 | Change | 2007                            | 2003 | Change | 2007                              | 2003 | Change |
| <i>Poverty Line = BGN 185</i> |                               |      |        |                                 |      |        |                                   |      |        |
| 0-5                           | 16.2                          | 24.7 | -8.5   | 7.6                             | 5.8  | 1.8    | 4.7                               | 4.7  | 0.0    |
| 6-14                          | 10.9                          | 19.0 | -8.1   | 7.6                             | 8.8  | -1.1   | 7.0                               | 9.2  | -2.1   |
| 15-19                         | 10.5                          | 20.0 | -9.5   | 6.5                             | 6.4  | 0.1    | 6.2                               | 6.4  | -0.2   |
| 20-24                         | 9.5                           | 19.6 | -10.1  | 6.8                             | 6.0  | 0.8    | 7.2                               | 6.1  | 1.1    |
| 25-29                         | 11.1                          | 18.3 | -7.2   | 6.7                             | 6.4  | 0.4    | 6.1                               | 7.0  | -0.8   |
| 30-34                         | 7.0                           | 14.7 | -7.8   | 4.6                             | 5.1  | -0.5   | 6.6                               | 6.9  | -0.3   |
| 35-39                         | 7.0                           | 12.0 | -4.9   | 4.3                             | 4.0  | 0.3    | 6.2                               | 6.7  | -0.6   |
| 40-44                         | 6.9                           | 16.5 | -9.6   | 4.6                             | 5.6  | -1.0   | 6.7                               | 6.7  | -0.1   |
| 45-49                         | 8.1                           | 14.2 | -6.1   | 6.0                             | 4.4  | 1.6    | 7.5                               | 6.2  | 1.2    |
| 50-54                         | 5.9                           | 14.1 | -8.2   | 4.4                             | 5.5  | -1.1   | 7.5                               | 7.7  | -0.2   |
| 55-59                         | 6.5                           | 15.4 | -9.0   | 5.1                             | 5.6  | -0.6   | 7.9                               | 7.3  | 0.6    |
| 60-64                         | 8.5                           | 18.8 | -10.3  | 6.1                             | 5.3  | 0.7    | 7.2                               | 5.7  | 1.5    |
| 65+                           | 15.5                          | 32.1 | -16.5  | 29.7                            | 31.1 | -1.4   | 19.2                              | 19.4 | -0.1   |
| Total                         | 10.1                          | 20.0 | -9.9   | 100                             | 100  | 0.0    | 100                               | 100  | 0.0    |
| <i>Poverty Line = BGN 145</i> |                               |      |        |                                 |      |        |                                   |      |        |
| 0-5                           | 8.8                           | 14.6 | -5.8   | 9.2                             | 6.2  | 3.0    | 4.7                               | 4.7  | 0.0    |
| 6-14                          | 5.8                           | 11.1 | -5.2   | 9.0                             | 9.2  | -0.2   | 7.0                               | 9.2  | -2.1   |
| 15-19                         | 5.9                           | 12.3 | -6.4   | 8.1                             | 7.1  | 1.0    | 6.2                               | 6.4  | -0.2   |
| 20-24                         | 5.4                           | 12.4 | -7.0   | 8.5                             | 6.9  | 1.6    | 7.2                               | 6.1  | 1.1    |

|       |     |      |       |      |      |      |      |      |      |
|-------|-----|------|-------|------|------|------|------|------|------|
| 25–29 | 5.3 | 10.0 | –4.7  | 7.2  | 6.3  | 0.8  | 6.1  | 7.0  | –0.8 |
| 30–34 | 3.7 | 7.5  | –3.8  | 5.3  | 4.7  | 0.7  | 6.6  | 6.9  | –0.3 |
| 35–39 | 3.5 | 7.3  | –3.7  | 4.8  | 4.4  | 0.3  | 6.2  | 6.7  | –0.6 |
| 40–44 | 3.1 | 9.3  | –6.1  | 4.6  | 5.7  | –1.1 | 6.7  | 6.7  | –0.1 |
| 45–49 | 3.9 | 9.6  | –5.7  | 6.4  | 5.4  | 1.0  | 7.5  | 6.2  | 1.2  |
| 50–54 | 3.0 | 7.0  | –4.0  | 5.0  | 4.9  | 0.1  | 7.5  | 7.7  | –0.2 |
| 55–59 | 2.5 | 9.7  | –7.2  | 4.4  | 6.4  | –2.0 | 7.9  | 7.3  | 0.6  |
| 60–64 | 3.4 | 7.4  | –4.0  | 5.3  | 3.8  | 1.6  | 7.2  | 5.7  | 1.5  |
| 65+   | 5.2 | 16.4 | –11.2 | 22.1 | 28.9 | –6.8 | 19.2 | 19.4 | –0.1 |
| Total | 4.5 | 11.0 | –6.5  | 100  | 100  | 0.0  | 100  | 100  | 0.0  |

Sources: MTHS data, 2003 and 2007

**Table B. 5: Poverty by Household Head's Age**

|                               | <i>Poverty Headcount Rate</i> |             |               | <i>Distribution of the Poor</i> |             |               | <i>Distribution of Population</i> |             |               |
|-------------------------------|-------------------------------|-------------|---------------|---------------------------------|-------------|---------------|-----------------------------------|-------------|---------------|
|                               | <i>2007</i>                   | <i>2003</i> | <i>Change</i> | <i>2007</i>                     | <i>2003</i> | <i>Change</i> | <i>2007</i>                       | <i>2003</i> | <i>Change</i> |
| <i>Poverty Line = BGN 185</i> |                               |             |               |                                 |             |               |                                   |             |               |
| 15–19                         | 0.0                           | 21.7        | –21.7         |                                 | 0.3         |               | 0.2                               | 0.3         | –0.1          |
| 20–24                         | 10.4                          | 18.3        | –7.9          | 1.2                             | 0.9         | 0.2           | 1.1                               | 1.0         | 0.1           |
| 25–29                         | 15.1                          | 22.3        | –7.2          | 5.5                             | 4.2         | 1.3           | 3.7                               | 3.8         | –0.1          |
| 30–34                         | 5.3                           | 11.6        | –6.3          | 3.0                             | 4.0         | –1.1          | 5.7                               | 7.0         | –1.3          |
| 35–39                         | 6.8                           | 14.5        | –7.7          | 5.1                             | 6.4         | –1.3          | 7.5                               | 8.8         | –1.3          |
| 40–44                         | 8.4                           | 20.7        | –12.3         | 8.3                             | 10.9        | –2.6          | 10.0                              | 10.5        | –0.5          |
| 45–49                         | 11.7                          | 16.2        | –4.5          | 15.1                            | 9.0         | 6.2           | 13.0                              | 11.0        | 2.0           |
| 50–54                         | 6.6                           | 15.5        | –8.8          | 8.5                             | 10.4        | –1.9          | 12.8                              | 13.4        | –0.5          |
| 55–59                         | 7.1                           | 17.7        | –10.6         | 8.6                             | 10.7        | –2.1          | 12.1                              | 12.0        | 0.1           |
| 60–64                         | 9.5                           | 16.9        | –7.4          | 9.5                             | 6.7         | 2.7           | 10.0                              | 8.0         | 2.0           |
| 65+                           | 14.8                          | 30.1        | –15.2         | 35.3                            | 36.5        | –1.2          | 24.0                              | 24.2        | –0.3          |
| Total                         | 10.1                          | 20.0        | –9.9          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |
| <i>Poverty Line = BGN 145</i> |                               |             |               |                                 |             |               |                                   |             |               |
| 15–19                         | 0.0                           | 4.3         | –4.3          |                                 | 0.1         |               | 0.2                               | 0.3         | –0.1          |
| 20–24                         | 3.0                           | 9.8         | –6.8          | 0.7                             | 0.9         | –0.2          | 1.1                               | 1.0         | 0.1           |
| 25–29                         | 8.0                           | 12.9        | –4.9          | 6.4                             | 4.4         | 2.0           | 3.7                               | 3.8         | –0.1          |
| 30–34                         | 2.2                           | 6.0         | –3.8          | 2.8                             | 3.8         | –1.0          | 5.7                               | 7.0         | –1.3          |
| 35–39                         | 4.6                           | 10.2        | –5.6          | 7.6                             | 8.1         | –0.6          | 7.5                               | 8.8         | –1.3          |
| 40–44                         | 4.4                           | 11.7        | –7.3          | 9.8                             | 11.2        | –1.5          | 10.0                              | 10.5        | –0.5          |
| 45–49                         | 6.6                           | 10.9        | –4.3          | 18.8                            | 10.9        | 7.9           | 13.0                              | 11.0        | 2.0           |
| 50–54                         | 3.2                           | 7.6         | –4.4          | 9.0                             | 9.2         | –0.2          | 12.8                              | 13.4        | –0.5          |
| 55–59                         | 3.7                           | 12.2        | –8.5          | 9.9                             | 13.3        | –3.4          | 12.1                              | 12.0        | 0.1           |
| 60–64                         | 3.9                           | 6.3         | –2.4          | 8.7                             | 4.6         | 4.1           | 10.0                              | 8.0         | 2.0           |
| 65+                           | 5.0                           | 15.2        | –10.2         | 26.3                            | 33.4        | –7.1          | 24.0                              | 24.2        | –0.3          |
| Total                         | 4.5                           | 11.0        | –6.5          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |

Sources: MTHS data, 2003 and 2007

**Table B.6: Poverty by Household Head's Status of Employment**

|                               | <i>Poverty Headcount Rate</i> |             |               | <i>Distribution of the Poor</i> |             |               | <i>Distribution of Population</i> |             |               |
|-------------------------------|-------------------------------|-------------|---------------|---------------------------------|-------------|---------------|-----------------------------------|-------------|---------------|
|                               | <i>2007</i>                   | <i>2003</i> | <i>Change</i> | <i>2007</i>                     | <i>2003</i> | <i>Change</i> | <i>2007</i>                       | <i>2003</i> | <i>Change</i> |
| <i>Poverty Line = BGN 185</i> |                               |             |               |                                 |             |               |                                   |             |               |
| Hired, Private                | 4.2                           | 10.0        | -5.8          | 47.2                            | 38.5        | 8.7           | 55.4                              | 39.2        | 16.2          |
| Hired, Public                 | 5.4                           | 9.8         | -4.3          | 24.3                            | 27.8        | -3.5          | 21.9                              | 29.0        | -7.1          |
| Self-employed, Nonfarm        | 2.0                           | 14.6        | -12.7         | 2.8                             | 31.2        | -28.4         | 7.0                               | 21.8        | -14.8         |
| Self-employed, Farming        | 8.0                           | 2.6         | 5.4           | 25.7                            | 2.6         | 23.1          | 15.7                              | 10.0        | 5.7           |
| Total                         | 10.1                          | 20.0        | -9.9          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |
| <i>Poverty Line = BGN 145</i> |                               |             |               |                                 |             |               |                                   |             |               |
| Hired, Private                | 1.4                           | 5.5         | -4.1          | 46.8                            | 42.0        | 4.8           | 55.4                              | 39.2        | 16.2          |
| Hired, Public                 | 2.1                           | 6.8         | -4.7          | 26.6                            | 38.4        | -11.8         | 21.9                              | 29.0        | -7.1          |
| Self-employed, Nonfarm        | 1.6                           | 3.7         | -2.1          | 6.5                             | 15.7        | -9.2          | 7.0                               | 21.8        | -14.8         |
| Self-employed, Farming        | 2.2                           | 2.0         | 0.2           | 20.2                            | 3.9         | 16.2          | 15.7                              | 10.0        | 5.7           |
| Total                         | 4.5                           | 11.0        | -6.5          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |

Sources: MTHS data, 2003 and 2007

**Table B. 7: Poverty by Household Head's Education Level**

|  | <i>Poverty Headcount Rate</i> |             |               | <i>Distribution of the Poor</i> |             |               | <i>Distribution of Population</i> |             |               |
|--|-------------------------------|-------------|---------------|---------------------------------|-------------|---------------|-----------------------------------|-------------|---------------|
|  | <i>2007</i>                   | <i>2003</i> | <i>Change</i> | <i>2007</i>                     | <i>2003</i> | <i>Change</i> | <i>2007</i>                       | <i>2003</i> | <i>Change</i> |
| <i>Poverty Line =BGN 185</i>                 |                               |             |               |                                 |             |               |                                   |             |               |
| Higher education                             | 0.9                           | 5.9         | -5.0          | 1.6                             | 5.3         | -3.8          | 17.5                              | 18.1        | -0.6          |
| Secondary education                          | 3.4                           | 9.1         | -5.6          | 15.2                            | 19.3        | -4.1          | 44.4                              | 42.5        | 2.0           |
| Basic education                              | 19.3                          | 35.3        | -16.0         | 68.2                            | 64.9        | 3.3           | 35.5                              | 36.7        | -1.2          |
| Not finished initial or never been to school | 59.2                          | 76.0        | -16.8         | 15.0                            | 10.5        | 4.6           | 2.6                               | 2.8         | -0.2          |
| Total  | 10.1                          | 20.0        | -9.9          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |
| <i>Poverty Line =BGN 145</i>                 |                               |             |               |                                 |             |               |                                   |             |               |
| Higher education                             | 0.1                           | 2.6         | -2.5          | 0.6                             | 4.3         | -3.8          | 17.5                              | 18.1        | -0.6          |
| Secondary education                          | 1.2                           | 3.5         | -2.3          | 12.2                            | 13.6        | -1.4          | 44.4                              | 42.5        | 2.0           |
| Basic education                              | 8.0                           | 20.6        | -12.6         | 62.4                            | 68.7        | -6.2          | 35.5                              | 36.7        | -1.2          |
| Not finished initial or never been to school | 44.1                          | 53.8        | -9.7          | 24.9                            | 13.4        | 11.4          | 2.6                               | 2.8         | -0.2          |
| Total  | 4.5                           | 11.0        | -6.5          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |

Sources: MTHS data, 2003 and 2007

**Table B.8: Poverty by Demographic Composition**

|   | <i>Poverty Headcount Rate</i> |             |               | <i>Distribution of the Poor</i> |             |               | <i>Distribution of Population</i> |             |               |
|---|-------------------------------|-------------|---------------|---------------------------------|-------------|---------------|-----------------------------------|-------------|---------------|
|   | <i>2007</i>                   | <i>2003</i> | <i>Change</i> | <i>2007</i>                     | <i>2003</i> | <i>Change</i> | <i>2007</i>                       | <i>2003</i> | <i>Change</i> |
| <i>Poverty Line =BGN 185</i>            |                               |             |               |                                 |             |               |                                   |             |               |
| <i>Number of children 0–6 years old</i> |                               |             |               |                                 |             |               |                                   |             |               |
| no children                             | 8.5                           | 18.8        | -10.4         | 66.8                            | 74.2        | -7.4          | 79.5                              | 78.8        | 0.7           |
| 1                                       | 11.2                          | 20.0        | -8.8          | 17.5                            | 17.6        | -0.1          | 15.8                              | 17.6        | -1.8          |
| 2                                       | 24.9                          | 43.1        | -18.2         | 9.6                             | 7.5         | 2.2           | 3.9                               | 3.5         | 0.4           |
| 3 or more children                      | 77.4                          | 100         | -22.6         | 6.0                             | 0.7         | 5.3           | 0.8                               | 0.1         | 0.6           |
| <i>Household size</i>                   |                               |             |               |                                 |             |               |                                   |             |               |
| 1                                       | 22.7                          | 42.8        | -20.0         | 13.2                            | 17.9        | -4.7          | 5.8                               | 8.4         | -2.5          |
| 2                                       | 10.6                          | 20.8        | -10.2         | 22.4                            | 21.5        | 1.0           | 21.4                              | 20.6        | 0.7           |
| 3                                       | 4.4                           | 12.2        | -7.8          | 11.0                            | 15.3        | -4.3          | 24.9                              | 24.9        | -0.1          |
| 4                                       | 4.8                           | 12.9        | -8.1          | 12.0                            | 16.2        | -4.2          | 25.1                              | 25.1        | 0.0           |
| 5                                       | 10.8                          | 23.2        | -12.4         | 12.5                            | 12.6        | -0.1          | 11.6                              | 10.8        | 0.8           |
| 6                                       | 19.8                          | 28.9        | -9.1          | 12.5                            | 8.8         | 3.6           | 6.3                               | 6.1         | 0.2           |
| 7 or more                               | 34.2                          | 38.7        | -4.5          | 16.5                            | 7.8         | 8.7           | 4.8                               | 4.0         | 0.8           |
| Total                                   | 10.1                          | 20.0        | -9.9          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |
| <i>Poverty Line = BGN 145</i>           |                               |             |               |                                 |             |               |                                   |             |               |
| <i>Number of children 0–6 years old</i> |                               |             |               |                                 |             |               |                                   |             |               |
| no children                             | 3.4                           | 10.3        | -6.8          | 59.7                            | 73.3        | -13.7         | 79.5                              | 78.8        | 0.7           |
| 1                                       | 5.7                           | 10.9        | -5.2          | 19.9                            | 17.4        | 2.4           | 15.8                              | 17.6        | -1.8          |
| 2                                       | 12.7                          | 27.6        | -14.9         | 10.9                            | 8.7         | 2.2           | 3.9                               | 3.5         | 0.4           |
| 3 or more children                      | 55.9                          | 45.5        | 10.5          | 9.6                             | 0.6         | 9.0           | 0.8                               | 0.1         | 0.6           |
| <i>Household size</i>                   |                               |             |               |                                 |             |               |                                   |             |               |
| 1                                       | 8.9                           | 25.8        | -16.9         | 11.4                            | 19.6        | -8.1          | 5.8                               | 8.4         | -2.5          |
| 2                                       | 3.3                           | 10.7        | -7.4          | 15.5                            | 20.0        | -4.5          | 21.4                              | 20.6        | 0.7           |
| 3                                       | 1.9                           | 5.2         | -3.2          | 10.5                            | 11.7        | -1.2          | 24.9                              | 24.9        | -0.1          |
| 4                                       | 1.6                           | 9.0         | -7.4          | 8.8                             | 20.4        | -11.6         | 25.1                              | 25.1        | 0.0           |
| 5                                       | 6.5                           | 15.8        | -9.3          | 16.6                            | 15.6        | 1.0           | 11.6                              | 10.8        | 0.8           |
| 6                                       | 9.5                           | 9.6         | -0.1          | 13.3                            | 5.3         | 7.9           | 6.3                               | 6.1         | 0.2           |
| 7 or more                               | 22.5                          | 20.4        | 2.0           | 23.9                            | 7.4         | 16.5          | 4.8                               | 4.0         | 0.8           |
| Total                                   | 4.5                           | 11.0        | -6.5          | 100                             | 100         | 0.0           | 100                               | 100         | 0.0           |

Sources: MTHS data, 2003 and 2007

**Table B. 9: Changes in the probability of being in poverty (percent)**

|   | 2007    |         | 2003    |       |
|---|---------|---------|---------|-------|
|   | Urban   | Rural   | Urban   | Rural |
| <i>Demographic event, child born in the family:</i>                               |         |         |         |       |
| Change from having no children 0–6 years old to having 1 child                    | 75.3    | 67.4    | 17.0    | 32.7  |
| Change from having no children 0–6 years old to having 2 child                    | 168.1   | 117.8   | 33.1    | 62.6  |
| <i>Change of household head (i.e., followed from a divorce, migration, etc.):</i> |         |         |         |       |
| Change from Male to Female  | 55.4    | 32.5    | 160.3   | 21.9  |
| <i>Education event, change in household's head education:</i>                     |         |         |         |       |
| Change from Higher education to Secondary education                               | 222.8   | 60.5    | 159.9   | 44.9  |
| Change from Higher education to Basic education                                   | 935.1   | 370.4   | 632.8   | 211.4 |
| Change from Higher education to Not finished initial or never been to school      | 8,522.1 | 1,006.9 | 1,515.2 | 440.5 |
| <i>Sector of employment event, household head's sector of employment:</i>         |         |         |         |       |
| Change from Hired, Private to Hired, Public                                       | -6.8    | 19.2    | -20.5   | 20.3  |
| Change from Hired, Private to Self-employed, Nonfarm                              | -68.7   | -57.9   | -3.9    | 22.8  |
| Change from Hired, Private to Self-employed, Farming                              | -6.6    | 6.7     | -60.1   | -16.8 |

Sources: MTHS data, 2003 and 2007

**Table B. 10: Sensitivity of Headcount Poverty Rate with Respect to the Choice of poverty line**

|                               | 2007                  |                        | 2003                   |                        |
|-------------------------------|-----------------------|------------------------|------------------------|------------------------|
|                               | Poverty Incidence(P0) | Change from actual (%) | Poverty Incidence (P0) | Change from actual (%) |
| <i>Poverty Line = BGN 185</i> |                       |                        |                        |                        |
| Actual                        | 10.1                  | 0.00                   | 20.0                   | 0.00                   |
| +5%                           | 11.9                  | 18.12                  | 22.0                   | 10.24                  |
| +10%                          | 13.4                  | 32.83                  | 24.5                   | 22.81                  |
| +20%                          | 17.0                  | 69.16                  | 30.0                   | 50.09                  |
| -5%                           | 8.8                   | -12.47                 | 17.9                   | -10.18                 |
| -10%                          | 7.4                   | -26.35                 | 15.6                   | -21.70                 |
| -20%                          | 5.0                   | -50.79                 | 11.5                   | -42.37                 |
| <i>Poverty Line = BGN 145</i> |                       |                        |                        |                        |
| Actual                        | 4.5                   | 0.00                   | 11.0                   | 0.00                   |
| +5%                           | 5.5                   | 21.73                  | 12.5                   | 13.67                  |
| +10%                          | 6.6                   | 44.75                  | 14.2                   | 28.56                  |
| +20%                          | 8.6                   | 89.69                  | 17.6                   | 59.78                  |
| -5%                           | 3.7                   | -18.60                 | 9.6                    | -12.89                 |
| -10%                          | 3.2                   | -30.02                 | 8.2                    | -25.44                 |
| -20%                          | 2.1                   | -54.14                 | 5.9                    | -46.78                 |

Sources: MTHS data, 2003 and 2007

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