

BULGARIA:

HOUSEHOLD WELFARE DURING THE 2010 RECESSION AND RECOVERY



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BULGARIA:

Household Welfare during the 2010 Recession and Recovery

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ACRONYMS AND ABBREVIATIONS

BGN	Bulgarian-denominated leva
CMS	Crisis Monitoring Survey
ECA	Europe and Central Asia
EU	European Union
EUR	Euro (€)
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
MBIF	Monthly Benefits to Individuals and Families
HA	Heating Allowance
HBS	Household Budget Survey
HH	Household
IMF	International Monetary Fund
MBFC	Monthly Benefits for Families with Children
MLSP	Ministry of Labor and Social Policy
MSSI	Monthly Supplement for Social Integration
NSI	National Statistical Institute
OECD	Organization for Economic Co-operation and Development
OSI	Open Society Institute, Sofia
SNA	System of National Accounts
SP	Social Protection

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EXECUTIVE SUMMARY

Purpose and Data

This report assessed the impact of the 2009 recession and the fragile recovery of 2010 on the welfare of Bulgarian households' and the effectiveness of Government policies in mitigating its costs. By the beginning of 2009, the global economic crisis had affected much of Europe, including Bulgaria. In Bulgaria, the decline in output lasted five quarters, followed by a modest increase during the rest of 2010. However, despite the large fluctuation in output during 2009–10, households preserved their 2008 income level throughout this period. What lies behind this example of successful income smoothing amid a large regional and national recession? Which were the key transmission channels through which the macro crisis filtered through to the household level? What population groups were most affected? What was the role played by public policy in mitigating the impact of the crisis? What lessons can be learned from the Bulgarian experience on protecting households during a crisis, while maintaining prudent fiscal and macroeconomic policies?

To answer these questions, the report uses an exceptionally rich survey to assess how households were impacted, how they responded to the crisis and how/if they benefited from a comprehensive government policy package. At the onset of the crisis, the Open Society Institute-Sofia and the World Bank partnered to implement a purposely-designed Crisis Monitoring Survey (CMS). The CMS is a unique multitopic household survey aimed: (i) to influence policy making with “real time” information; (ii) to understand the transmission channels of income shocks during the crisis (e.g. via labor markets, financial markets; product markets; government services and transfers); (iii) to document the dynamics of household welfare during 2010-2011 (to go beyond administrative data, or impact on the “average household”), across the income distribution; (iv) to document and describe the coping strategies of the households affected by income shocks; and (v) to determine whether the formal and informal safety nets have effectively mitigated the impact of the crisis.

For logistical reasons, the CMS covered only the period 2010 and the beginning of 2011, coinciding with the end of the recession and the beginning of economic recovery. When the Open Society Institute-Sofia and the World Bank embarked on designing the CMS in mid-2009, the crisis had already begun. And, although the whole process of questionnaire development, pre-testing, training the team of interviewers and collecting the first round of data took a only half a year, the CMS had missed the first year of the crisis.

To offer a comprehensive picture of the welfare of Bulgarian households during the 2009-2010 recession, the report combined two key sources of household-level information.

First, for the period 2008-2010 the report uses published results from the Household Budget Survey of the National Statistical Institute. These results track the income and consumption of the average household, but are not disaggregated by different population groups. In addition, the report triangulates the survey information with a wealth of administrative data

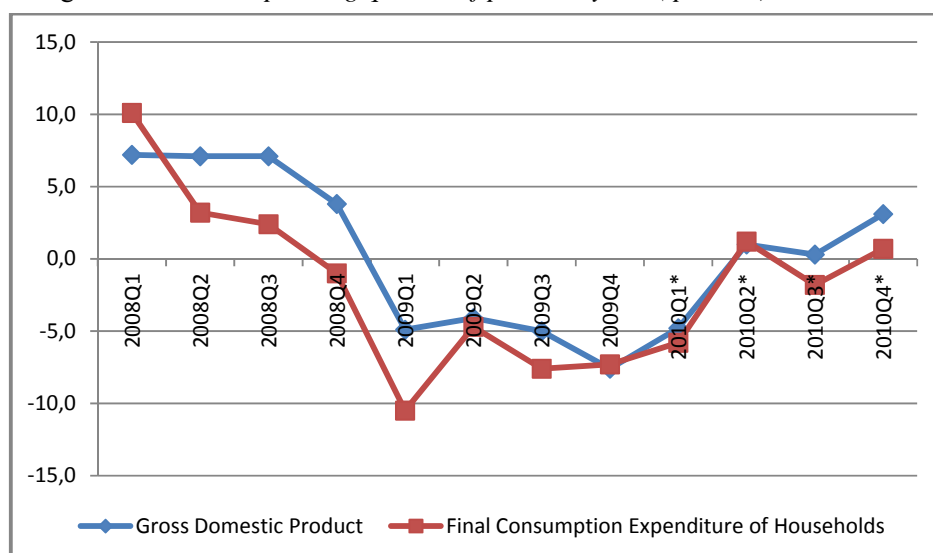
and statistical time series, on GDP dynamics, budget expenditures, labor market statistics, social protection spending and caseload, price and sales data. Taken together, these data sources paint a coherent story of onset of the crisis in 2009, although with significantly less detail than that provided by the CMS.

The second data source, covering the period 2010-2011, was the CMS. The CMS is a multitopic household survey that followed three nationally representative cross-sections of about 2,400 households, including a panel of about 1,700 Bulgarian households, during February 2010, October 2010 and February 2011. The survey included a detailed income module, but no consumption module. It tracked the incidence of income shocks, the coping strategies used by affected households to mitigate the income losses, and the impact of public policies – social protection in particular – in alleviating the effects of the crisis. In particular, the survey investigated in some depth how households used the labor market to mitigate the impact of the crisis; whether formal social protection programs, including those intended to act as automatic stabilizers, protected households against sliding into poverty; and the effectiveness of informal safety nets.

Overall macroeconomic developments

The global economic crisis hit Bulgaria hard in 2009. After a decade of growth averaging 5.3 percent a year, Bulgaria's GDP declined by 5.5 percent in 2009 and remained flat in 2010. Compared to average growth over the past decade, Bulgaria's 2010 output was lower than its potential no-crisis level by about three years; in other words, the country lost three years of economic growth. The household consumption component of the GDP took an even bigger hit, falling by 7.5 percent during 2009 and by 1.3 percent during 2010.

Figure 1. Volume indices of Gross Domestic Product by Final Expenditure
change over the *corresponding quarter of previous year* (percent)



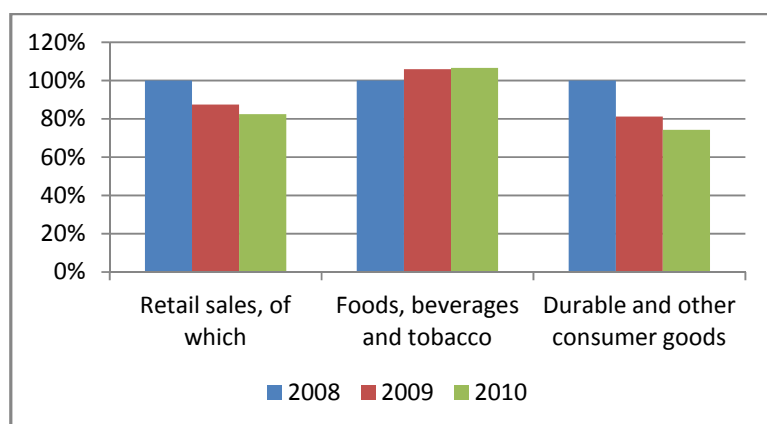
Source: National Statistical Institute, Sofia (www.nsi.bg)

Overall effects on households

A crisis of this magnitude is expected to trigger significant hardship on the poor or those vulnerable to poverty; however, survey data (HBS and CMS) indicate that average income levels were remarkably stable. Average household incomes increased by 3 percent in real terms in 2009¹, to fall by about 4 percent in 2010, according to the Household Budget Survey (HBS). In February 2011, real household incomes changed little compared to the previous year, according to the CMS. At the beginning of 2011, average household income was no different from 2008, just before the crisis hit Bulgaria. Income mobility was limited during 2010. About 87 percent of the households kept their relative position in the overall income distribution: they remained in the same income quintile or moved up or down to the next one. Compared to the changes in GDP, no large fluctuation in household consumption or income was apparent in the HBS or CMS data².

The different magnitudes of crisis impact shown by GDP and survey data are due to a combination of methodological differences of the welfare metric being used, and the specific policy response to the crisis. The GDP and the survey-based estimates of household income and consumption use related, but slightly different welfare metrics. These metrics correlate together over time, but the strength of the correlation weakens at the beginning of an economic crisis, when GDP tends to show larger falls compared to the survey-based estimates.

Figure 2: Dynamics of Retail sales in Bulgaria, 2008-2010



Source: Estimations based on trade statistics published by NSI Sofia

At the beginning of the crisis, certain components of welfare such as purchases of durables, investments in housing and other goods and services that have high income elasticity have taken a larger hit compared to food consumption (Figure 2). In 2009, the sales of durable goods fell by 19 percent compared to 2008, and the revenues from the construction of new homes or rehabilitation of the existing stock fell by 23 percent, while sales of food and beverages have increased by 6 percent. Car sales have declined by 40 percent. These changes are taken into

¹ The growth in HH incomes is consistent with wage statistics and it reflects the labor shortages that were in place until late 2008.

² The data source for the dynamics of household consumption is the System of National Accounts. Household-level estimates for quarterly average consumption are published by the National Statistical Institute based on HBS. The CMS includes only information on household income, not household consumption.

account differently by the GDP versus the survey-based welfare metrics of consumption. The *flow* of purchases or goods consumed within a household is included in its entirety in the SNA's aggregate consumption. The large contraction of SNA household consumption occurred mainly because purchases of durables, vehicles and housing dropped severely in 2009 compared to 2008. The survey-based estimates of consumption include the flow of current consumption of goods and services, plus the *user-value* of the stock of durable and housing. The stock of durables and housing increased, albeit at a smaller pace, during 2009. Consequently, the user-value of the stock of durables and housing, included in the survey-based estimates of consumption, increased. Hence, survey-based estimators of (current) consumption or income were remarkably stable in 2009.

In addition to these methodological differences between GDP and survey estimates of income and consumption dynamics, the increase in social protection spending at the beginning of the crisis played a large role in postponing the transmission of the macro shock to the household level, as described in chapters 2 and 4.

Amid a timid and fragile recovery in output, between 2010 and early 2011 Bulgarian households became poorer. The CMS has tracked the income-poor using an absolute poverty line of 255 Lev per adult equivalent per month, in February 2010 prices. This line represents 60 percent of median income per adult equivalent as of February 2010, and thus coincides with one of the EU poverty measures (for the February 2010 survey round only). About 21 percent of the population was poor in February 2010, raising to 23 percent a year later. Income poverty increased significantly over a one year period, by two percentage points.

However, the profile of poverty has not changed substantially compared to the pre-crisis period.³ The characteristics of the income-poor changed little during 2010 and early 2011, according to the CMS. The incidence of poverty was lower among households in which the head was employed, better educated, had a smaller household or fewer children, or was an ethnic Bulgarian. Poverty went up significantly in a few small groups or poverty pockets such as the unemployed, the low-skilled and the Turkish minority. These groups also reported a higher incidence of income shocks.

After a large decline during 2009, purchases of durable goods began recovering in 2010. Another key element that characterizes the living standard of Bulgarian households is their asset holdings, especially their dwelling and the durables they possess. There is no household-level information for 2009, but aggregate statistics on purchases of durables and housing suggest a large fall. With CMS, the stock of durables is tracked during 2010, and the dynamics of purchases during 2009 and 2010. Bulgarian households own a relatively large and diversified stock of durables, to which they added little during the 2009 crisis year; a small increase is apparent during 2010. The CMS data shows a slight improvement in purchases of durable goods in 2010 compared to 2009, with the exception of high-cost investments (cars or second dwelling). This was consistent with a reduced level of pessimism in the population, which continues to dominate, amid a fragile recovery of GDP.

Households reporting income shocks during 2010

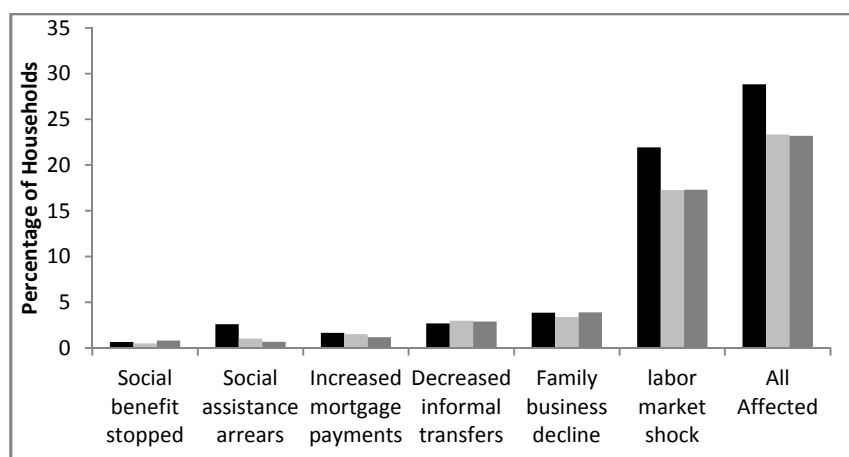
In February 2010, about a third of Bulgarian households reported effects from income shocks. The CMS was designed to capture a wide range of income shocks, originating from the

³ See, for example, World Bank (2009) and NSI (2009).

labor, financial or product markets, or from lower government transfers⁴. Not all of these shocks occurred *because* of the global economic crisis. While we cannot separate the share of economic shocks that were caused by the crisis, tracking their incidence, along with the ability of households to cope with them, informs policy makers and the public of whether or not the crisis is abating. This information allows us to assess the relative importance of different transmission channels through which the macro shocks have affected households, especially those that are poor and vulnerable.

Who has been affected and how? The key transmission channel of income shocks was the labor market. About one third of the active population reported labor market shocks in February 2010, with a minority affected by unemployment (5 percent), and many more by cuts in wages or duration of employment – another 30 percent. This number fell to 23 percent in 2011. Workers from the most vulnerable groups — those with a primary education or lower, including most Roma — were more likely to suffer from the most severe labor market shocks, particularly unemployment. When aggregated at household level, we also found that a third of households suffered economic shocks as of February 2010. This figure declined to about a quarter of the population in October 2010 and February 2011. Three-quarters of these shocks were labor market shocks. Other types of economic shocks—like cuts in remittances, arrears to social protection transfers, reduced access to credit or to public services like education or health—were not as important in Bulgaria.

Figure 3: Sources of household income shocks



Source: Estimations based on Crisis Monitoring Survey

Over time, the share of households reporting economic shocks has declined. About 34 percent of households reported being affected by income shocks in February 2010. The situation improved in October 2010 and February 2011, as only 27 percent of households reported being affected by the crisis in later period. However, there was no further improvement between October 2010 and February 2011.

⁴ The **labor market shocks** captured by the CMS include job losses (incurred by the unemployed or discouraged workers over the past 12 months) or erosion in the quality of employment (reported by the current stock of employees) such as wage arrears; lower wage earnings, switching from full-time to part-time work, or being forced to take unpaid leave or work without compensation. Self-employed are reporting whether they have experienced payment arrears or a fall in demand for their business or been forced to close the business. The **financial shocks** include lower capital or interest income, eroding savings, or an increase in the mortgage payments. Finally, households are reporting whether the **receipt of pensions or social benefits** has been discontinued. All households that reported at least one such incident during the past 12 months are labeled as households affected by economic shocks.

Next, we look at *the labor market income shocks that affected households during 2010*, which complement the picture that emerges from the macro and administrative data with the household-level information collected through the CMS.

Similar to other crisis episodes in the past (see Box 2.1 in chapter 2), a relatively fast but fragile recovery of output was accompanied by a sluggish labor market recovery. As a result of the crisis, employment fell starting the third quarter of 2008 and has failed to pick up. The fall in employment was aggravated by the growth in real wages well into the crisis. The sluggishness of employment growth in the recovery phase may have to do with strict/costly firing regulations (see Annex 4), coupled with a small informal labor market.⁵ The slow recovery of employment is particularly unfavorable to low-skilled and informal workers who are particularly vulnerable to poverty.

The CMS presents a detailed X-ray of the labor market during 2010 and the beginning of 2011, the period when the output recession was ending. The labor market was the major transmission channel of economic shocks in the crisis, with a majority of households reporting being affected through a household member losing a job or experiencing a reduction in salary or hours worked. During this period, unemployment stabilized while employment losses continued. The overall percentage of population that was employed fell by about 3 percentage points, primarily as older workers (over 64 years) stopped working. Employment among working age adults (15–64 years) remained stable and relatively high at around 62 percent. Unemployment remained high, with a fall in October 2010 due to the seasonal increase in agricultural employment. The population groups with the highest risk of unemployment include those with low education, Roma, and the poor.

Financial markets, in particular savings, credit and mortgage credit, played a secondary role as a source of economic shocks for Bulgarian households during February 2010 to February 2011. In part, this was due to their limited market penetration. As of February 2010, the CMS found that only a quarter of households had savings, and just 4 percent had mortgages. The majority of the households with savings and/or a mortgage are at the upper end of income distribution; while some suffered financial market shocks, they were not at risk of falling into poverty. However, the resilience of this segment of the population to absorb shocks has faltered; many of the households with savings used them to withstand economic shocks, and these same households may face months of “living on savings” if other sources of income dry up. While the crisis also brought stress to those households having mortgages, the limited number of these made this potential transmission channel less important.

⁵ Compared to similar economies such as Romania or Poland. Our assessment relates only to the share of informal employment in total employment, as reported in the CMS. Another World Bank study (2010) that quantified the size of the informal sector based on an enterprise survey found that 15 percent of the companies employ informal sector practices. This dimension was not captured in the CMS.

Household responses to income shocks

How did households mitigate the economic shocks during 2010? Households relied on a portfolio of strategies rather than a single strategy to cope with the crisis. Households not only tried to increase the labor supply to augment their falling income but also resorted to cutting back on various expenditures.

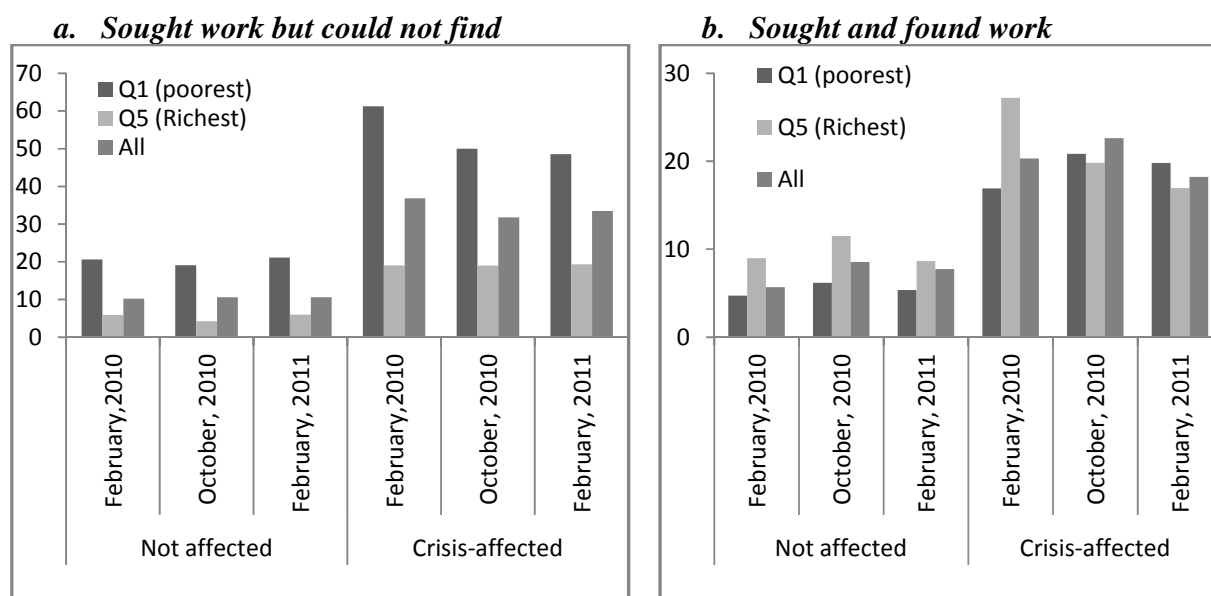
Households responded to the economic contraction by reducing expenditures on necessities: 41 percent reported reducing use of basic utilities, 29 percent reduced consumption of staple foods, and 8 percent reported skipping meals (in February 2010). As in other Central and Eastern European countries, households suffering economic shocks significantly reduced their expenditures on health, including stopping the use of regular prescribed medications and skipping doctors' visits. Shock-affected households were more likely to stop paying social contributions and health insurance — increasing their vulnerability if exposed to additional shock (falling ill or becoming unemployed). Some of the households that suffer from labor market and income shocks during an economic crisis are likely to suffer from lower income and human development outcomes.

Many households reported reduced consumption of utility services (about 41 percent) or public services such as education or health (between 5 and 10 percent). An economic crisis can affect the supply of and demand for utilities and public services; funding for such services may suffer, and impoverished households cannot afford utilities or private costs associated with accessing public services. During 2010, the issue in Bulgaria was not access to services (supply constraints), but the ability to pay for them (demand constraints). On the demand side, 41 percent of households reported being forced to reduce their use of utility services in February 2010; this percentage increased slightly by February 2011. Access to utility services was maintained for a large majority of households; but a few, especially the poorer ones, went into arrears and an even smaller number were disconnected. The supply of education and health services was maintained during the crisis.

Informal transfers—such as remittances from relatives within the same country or from abroad and informal loans (interest free) from relatives/friends—can be used to smooth consumption during a shock. In February 2010, about 18 percent of households reported receiving informal transfers (13 percent from internal relatives and 6 percent from abroad) and 6 percent of the households reported getting interest-free loans from relatives or friends. The share of households receiving informal transfers was stable during 2010—early 2011.

Most households tried to cope with a reduction in income by sending non-working family members to look for work or by seeking additional part-time work—but only the better educated and richer individuals succeeded in finding additional work. Among poor households that were affected by shocks, 60 percent looked for additional work and failed to find any.

Figure 4: Household tried to increase labor supply by seeking additional work



Source: Estimations based on Crisis Monitoring Survey

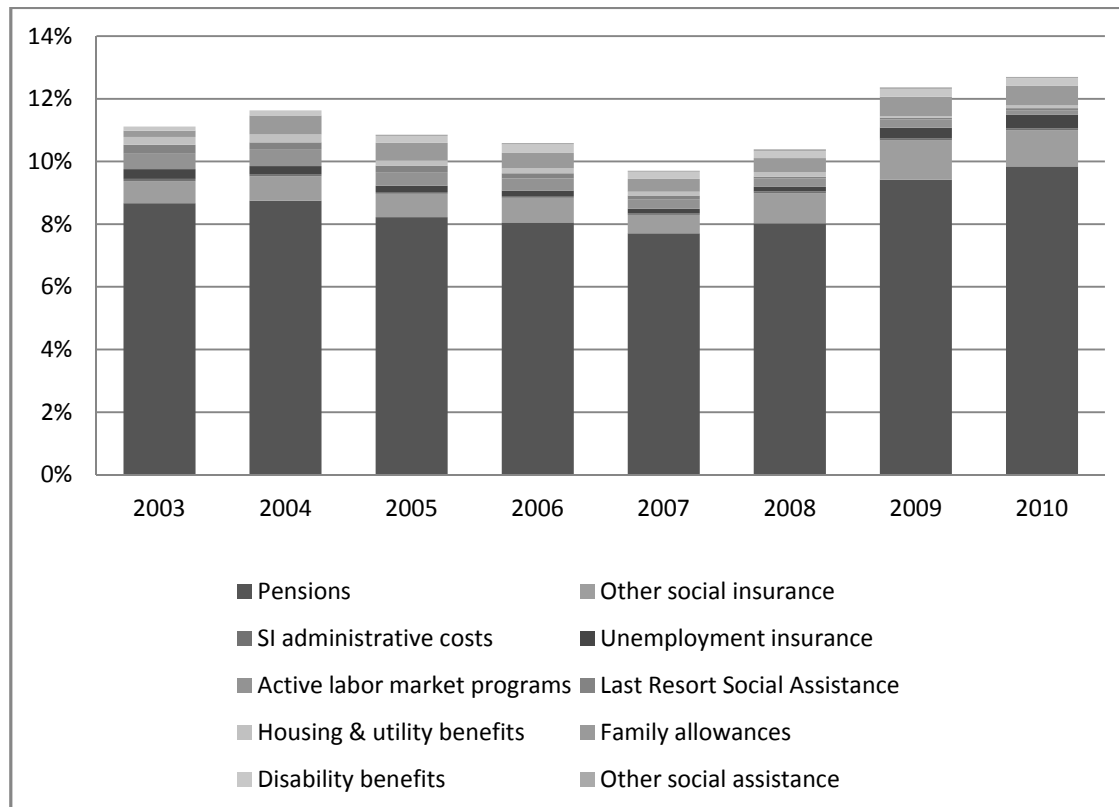
Key social assistance programs (child allowances, heating allowances and the guaranteed minimum income program) helped mitigate to the crisis—60 percent of the households from the poorest quintile who suffered an income shock received at least one benefit from the three programs mentioned above.

Policy response to the economic crisis

Substantial fiscal consolidation was needed in 2009 to contain the budget deficit (World Bank, 2010). Growth projections for the 2009 budget had been unduly optimistic, envisaging strong revenue growth of about 18% over 2008. Instead, revenues fell by about 9%, leading to a revenue shortfall of almost 11 percent of GDP. At the same time planned spending went forward, including increases in pensions in January and July 2009, which significantly strained the budget. After the parliamentary elections, fiscal consolidation helped keep the deficit low despite rapid worsening of revenues. The consolidation included measures to (i) a 15 percent cut of non-interest spending; (ii) prioritize capital projects by reviewing large projects underway to identify savings and address any governance issues; (iii) optimize public administration structures and staff, including closing of two ministries and consolidation of some agencies; and (iv) intensify the fight against tax fraud and avoidance. The 2009 budget ended in a small deficit of 0.9 percent of GDP on a cash basis, compared to an surplus of 2.9 percent in 2008.

Despite the significant fiscal consolidation that has taken place in 2009, social protection spending was actually increased. By far, the largest increase went for pensions. This measure, motivated in part by the election cycle, injected additional transfer income into the budgets of a large number of households with elderly (more than half of the population, see Figure 2.4).

Figure 5. Social Protection Spending as percent of GDP, 2003-2010



Source: Ministry of Labor and Social Policy

The key mitigating factor in the loss of earnings in 2009 was a counter-cyclical, expansionary social protection policy in 2009. The government was able to keep average household income constant in 2009 by a strong expansion of its social protection policy, which compensated for the reduction in earnings in 2009 according to the HBS. The share of social protection transfers in the average household income went up from a quarter in 2008 to a third in 2009. While wages lost some of their purchasing power during 2010 compared to 2009, the increase in social protection spending helped mitigate larger income losses. From February 2010 to February 2011, the earnings level stabilized. Social protection spending continued to increase in 2010 and early 2011. This public response prevented a sharp increase in poverty, especially because job losses disproportionately affected the low-skilled and informal workers.

Between February 2010 and February 2011, the targeting performance of social assistance spending was strong, but lower than in 2007. Households reported in the CMS that they received about 5 percent more social protection (SP) transfers in February 2011 than a year earlier, just enough to compensate for inflation over the period. The coverage of the SP system has remained strong, with complete coverage of the poorest income quintile (on a net of transfer

basis); all households in this quintile have received at least a pension, unemployment benefit or social assistance transfer. The coverage with social assistance transfers of the poorest quintile increased by 10 percent, from 60 percent to 66 percent, during the CMS period. Many earlier studies have found that the Bulgarian social assistance system is well targeted to the poorest quintile (see World Bank 2009). The CMS responses suggest that targeting accuracy deteriorated during the crisis (2009), then improved marginally from February 2010 to February 2011. This temporary deterioration during crisis time is not atypical; it is hard to maintain the compliance of means-tested programs amid fluctuations in household income.

The overall SP response was successful in halting a severe fall in household incomes; it was also relatively costly. The bulk of the social protection stimulus financed redistributive elements within the social insurance system (e.g. social and minimum pensions) or went to categorical social assistance programs. The stimulus underutilized Bulgaria's battery of well-targeted programs, including child allowances and especially the Monthly Benefits to Individual and Families (MBIF) program. The MBIF program covers only a small part of the population and an even smaller percentage of the poor). A more cost-effective spending mix would have put more money through the means-tested programs of the social protection system.

Looking ahead: How near is the “end of the tunnel”?

By early 2011, Bulgaria had experienced a fragile recovery of its GDP, but employment and earnings' recovery was not yet complete. The pressure of economic crisis on households remains high, despite signals that the recovery has begun. The CMS suggests that the incidence and magnitude of economic shocks fell during 2010 and early 2011. However, by early 2011, the output growth had not yet trickled down to households. After a decade (1998-2008) of robust growth of about 5.4 percent annually, average household incomes continue to be stalled at their 2008 levels. Households are still waiting for the recovery.

In 2011 households are, on average, cautious about their economic prospects, but less so than a year ago. The share of Bulgarians who believe that the economic situation of the average household is worse than a year ago has fallen from 69 percent to 57 percent. The share of workers reporting that they work fewer hours than a year ago has significantly fallen in most sectors of the economy, except in wholesale and retail trade. In addition, the share of workers reporting hourly wage declines fell in all economic sectors. Fewer workers expect unemployment to increase in the coming year (46 percent in February 2011, compared to 66 percent a year ago). A larger share of households believe the economic situation will stabilize during 2011 (38 percent in February 2011 compared to 31 percent in February 2010) and fewer that it will further deteriorate (34 percent versus 41 percent, respectively). As the crisis continues to unfold in 2011, it is not clear which group - those who expect recovery or those who expect collapse – will be proved right.

1. HOUSEHOLD WELFARE DURING CRISIS AND RECOVERY

1. *By the beginning of 2009, the global economic crisis that started in 2008 in the US mortgage sector had affected much of Europe, including Bulgaria. In Bulgaria, the decline in output lasted five quarters, followed by a modest increase during the rest of 2010. After a decade of growth averaging 5.4 percent a year, GDP declined by 5.5 percent in 2009 and grew by 0.2 percent in 2010. Household consumption took an even bigger hit, falling by 7.2 percent during 2009 and by 1.3 percent during 2010. However, despite the large fluctuation in output during 2009–10, households preserved their 2008 income level throughout this period.*

2. *A crisis of the magnitude of the 2009-2010 global recession is expected to trigger significant hardship among the poor and those vulnerable to poverty; however, in Bulgaria the fall in the average household income was substantially lower than the fall in GDP. Average household incomes increased by 3 percent in real terms in 2009, to fall by about 4 percent in 2010, according to the Household Budget Survey (HBS). In February 2011, real household incomes changed little compared to the previous year, according to the CMS. At the beginning of 2011, average household income was no different than in 2008 -- just before the crisis hit Bulgaria. Income mobility was quite limited during 2010. About 87 percent of the households kept their relative position in overall income distribution: they remained in the same income quintile or moved up or down to the next one. The large fluctuation that occurred in household consumption was not apparent in household income⁶.*

3. *Amid a timid recovery in output during 2010 and early 2011, the number of poor households in Bulgaria increased. This report uses the CMS to track the income-poor, the population living on less than 255 Lev per adult equivalent per month, in February 2010 prices (an absolute poverty line kept constant in purchasing parity terms in the subsequent survey waves). Income poverty increased substantially by two percentage points: about 21 percent of the population was poor in February 2010, rising to 23 percent a year later. The poverty profile in 2011, however, was similar to the pre-crisis profile.*

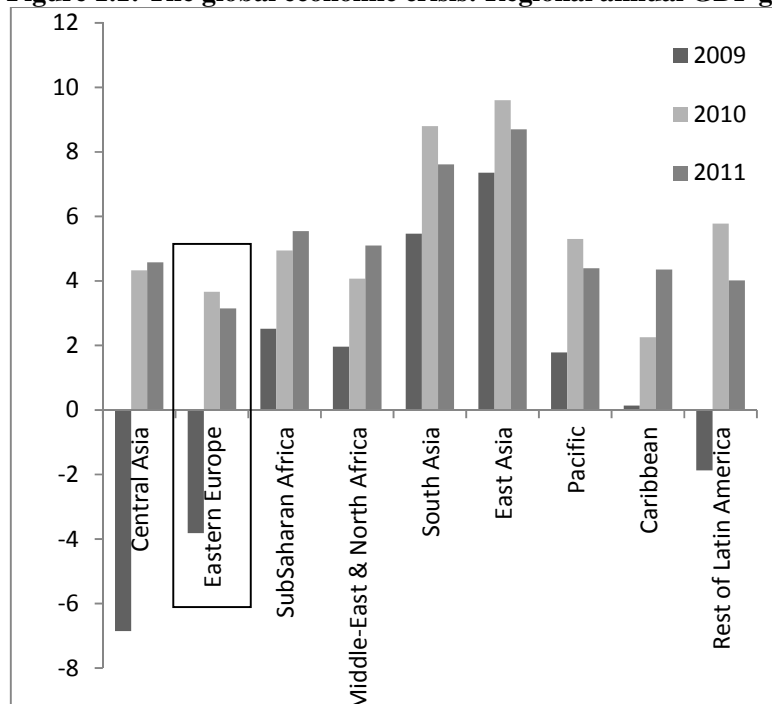
1.1 Overall Macroeconomic Development

4. **Bulgaria is a small open economy belonging to the new member states of the European Union, one of the most integrated economic regions of the world. It is no wonder that the country was substantially hit by the global crisis,** which reached Bulgaria through a sudden fall of foreign trade. Bulgaria is part of Eastern Europe, the second most affected region by the crisis in the world (see Figure 1.1). The global economic crisis hit Eastern Europe and

⁶ The data source for the dynamics of household consumption is the System of National Accounts. At the time of writing this report the NSI has not published data on household consumption based on HBS. The CMS includes only information on household income, not household consumption.

Central Asia much harder than other regions in the world. The decrease of GDP has reached 7 percent in average in Central Asia and 4 percent in Eastern Europe in 2009. With a drop in GDP by 5.5 percent in 2009, the crisis had a significant impact on Bulgaria's economy.

Figure 1.1: The global economic crisis: Regional annual GDP growth rate



Note: National real growth rate are weighted by PPP GDP. Data is from IMF WEO, October 2010. 2010 and 2011 data are forecasted.

5. **The crisis came after a period of rapid and sustained growth in Eastern Europe since the early 2000s.** The average yearly growth rate during 2002–2007 in Eastern Europe and the Balkans was around 6 percent, spanning from 3.2 percent in Hungary to 9.7 percent in Latvia. During this period, Bulgarian experienced an average GDP growth about 6.3 percent per year, slightly above average.

6. **Although the Europe and Central Asia (ECA) region was severely affected by the crisis as a whole, its impact on the different economies of the region was heterogeneous.** The impact of the crisis has also been widely different across countries within the ECA region. While Azerbaijan benefitted from a very high growth rate of 9 percent in 2009, Latvia experienced the worst drop in GDP, a fall by 17 percent. The region can be separated in two groups. In Azerbaijan, Uzbekistan, Turkmenistan and Tajikistan, the crisis had a limited impact. These four countries have been experiencing very high growth rates in the 2000s and have barely slowed down. In the rest of the region, however, there is a clear negative correlation between growth before the crisis and the severity of it. Within this second group, the countries that grew the fastest during the 2000s suffered the most during the crisis. Economies overheated on the ease of the global crisis paid the highest price. With growth rates during the 2000s around Eastern Europe average, Bulgaria faced a limited drop in GDP of 5.5 percent in 2009, which is exactly what the average economy in Eastern Europe experienced.

7. **The global crisis reached Bulgaria through a fall in the external demand and a tightening of credit, and spread rapidly through the economy as the labor market contracted.** Exports fell sharply by 11.2 percent in 2009 compared to 2008 as the recession deepened in Bulgaria's main trading partners. The contraction of the external demand was followed by an abrupt contraction of investment, which fell by 25 percent in 2009, consequence of the collapse of FDI inflows and growing uncertainties about economic outlook. This sudden decrease in demand forced the supply side to adjust employment. Unemployment rose rapidly to 8 percent in 2009 from record low levels of 5.1 percent in 2008.

8. **The global economic crisis that hit Bulgaria at the beginning of 2009 resulted in a sharp reduction in household consumption.** After a full decade of continuous growth, averaging 5.4 percent per year between 1998 and 2008, GDP fell in 2009 by 5.5 percent (Table 1.1). Aggregate household consumption (estimated in the System of National Accounts) fell even more, by 7.2 percent. The rate of GDP and household consumption decline was relatively steady during each quarter of 2009, and continued in the first quarter of 2010 (Table 1.2). The decline halted in the second and third quarter of 2010. During the last quarter of 2010, household consumption remained at the same level (as in the Q4 of 2009) while overall output increased by 3.1 percent due to an improvement in net exports.

Table 1.1: GDP and Final Consumption of the Household Sector (SNA data), *Previous year = 100, percent*

Year	GDP	Households' Consumption
1996	91.0	101.3
1997	98.4	89.6
1998	104.9	103.3
1999	102.0	109.2
2000	105.7	107.3
2001	104.2	107.9
2002	104.7	103.6
2003	105.5	106.7
2004	106.7	107.7
2005	106.4	106.8
2006	106.5	108.7
2007	106.4	109.0
2008	106.2	103.4
2009	94.5	92.5
2010*	100.2	98.7

* Preliminary data. Source: National Statistical Institute (www.nsi.bg)

Table 1.2: Volume indices of Gross Domestic Product by Final Expenditure - *corresponding quarter of previous year = 100 (percent)*

Year/Quarter	Gross Domestic Product	Final Consumption Expenditure of Households
2008Q1	107.2	110.1
2008Q2	107.1	103.2
2008Q3	107.1	102.4
2008Q4	103.8	99.0
2009Q1	95.1	89.5
2009Q2	95.9	95.3
2009Q3	95.0	92.4
2009Q4	92.4	92.7
2010Q1*	95.2	94.2
2010Q2*	101.0	101.2
2010Q3*	100.3	98.2
2010Q4*	103.1	100.7

National Statistical Institute, Sofia (www.nsi.bg)

1.2 Overall Household Effects

9. **In contrast with the macroeconomic data, survey data indicate that income and consumption were relatively stable during 2009 and 2010.**

10. **To offer a comprehensive picture of the welfare of Bulgarian households during the 2009-2010 recession, the report uses two key sources of household-level information**, not entirely comparable⁷. First, the report uses the published results based on the Household Budget Survey of the National Statistical Institute. These results track the income and consumption of the average households, but are not disaggregated by different population groups. These results are reported in the first part of this section. The second data source is the CMS (see Box 1.1 and Annex 1), which allows us to present a disaggregated picture of the welfare dynamics during 2010 and the beginning of 2011.

11. First, we report the main trends in average income and consumption from the HBS data published by the National Statistical Institute of Bulgaria.

⁷ For example, the HBS produces estimates of quarterly household income, while the CMS of income during the months of January or September. The Household Budget Survey is a continuous survey run by the National Statistical Institute since 1962 on an annual sample of about 3000 households (since 2002), or about 250 households per month. The survey collects detailed information on household consumption and incomes, but limited information on other socio-economic conditions (e.g. labor market). The survey produces annually and quarterly representative estimates of consumption, income or endowment with durables or housing conditions. The Crisis Monitoring Survey is a multitopic household survey (see Annex 1) that collects a wider range of information from the sampled households. The survey tracks only income, not consumption, for the month preceding the survey wave (e.g. January income for the February round). Other difference that could impact on the comparability of results relates to differences in the survey questionnaires.

12. **On average, real household income was relatively stable during 2009 and 2010, as the drop in earnings was mitigated by an expansionary social protection policy during 2009 (Table 1.4).** The total wage bill per capita reported in the HBS increased by 3 percent in 2009, and fell by 6 percent in 2010. All other earnings registered double-digit declines. However, the decline in earnings was mitigated in 2010 by an expansionary social protection policy (see Chapter 4.2). With growing unemployment, the contribution of unemployment benefits in total household incomes almost tripled in 2009 and increased another 12 percent in 2010⁸. Pensions and family benefits, two larger social protection spending items, increased by 22 percent and 44 percent respectively in 2009. The increase in social protection income arrested much of the decline in non-wage earnings in 2009, and mitigated its decline in 2010. However, two years of crisis changed the contribution of earnings to total household income. From 2008 to 2010, the share of earnings as a part of total household income fell from 65 percent to slightly less than 60 percent. Social protection income — especially pension income — increased from 27 percent to 34.3 percent over the same period. By the end of 2010, a third of the income of the average household depended on social protection (transfer) income.

Table 1.3: On average, annual per capita household incomes have been flat during 2008–2010

	Average PCY*, Levs, Nominal			Composition of PCY			Change in Real PCY	
	2008	2009	2010	2008	2009	2010	2009/08	2010/09
Total income, of which:	3502	3693	3648	100.0	100.0	100.0	1.03	0.96
Wages and salaries	1816	1928	1857	51.9	52.2	50.9	1.03	0.94
Other earnings	176	156	82	5.0	4.2	2.2	0.86	0.51
Entrepreneurship	178	176	174	5.1	4.8	4.8	0.96	0.97
Property income	31	24	28	0.9	0.6	0.8	0.75	1.14
Unemployment benefits	7	20	23	0.2	0.5	0.6	2.78	1.12
Pensions	811	1020	1128	23.2	27.6	30.9	1.22	1.08
Family allowances	23	34	33	0.7	0.9	0.9	1.44	0.95
Other social benefits	107	66	66	3.1	1.8	1.8	0.60	0.98
Household plot	136	115	75	3.9	3.1	2.1	0.82	0.64
Property sale	36	5	15	1.0	0.1	0.4	0.14	2.93
Miscellaneous	182	149	169	5.2	4.0	4.6	0.80	1.11
Earnings	2277	2326	2179	65.0	63.0	59.7	0.99	0.91
Social protection	948	1140	1250	27.1	30.9	34.3	1.17	1.07
Other income	249	178	212	7.1	4.8	5.8	0.70	1.16
<i>Pro memoria</i>								
Consumer price index	1.000	1.028	1.024					

Note: PCY stands for per capita income

Earnings = wages, salaries, other earnings, entrepreneurship income and the proceeds of the household plots

Social protection income = unemployment benefits, pensions, family allowances and other social benefits

Source: Bulgaria Household Budget Survey, National Statistical Institute

⁸ This increase reflects the increase in the number of households receiving unemployment benefits, the increase in the level of the unemployment benefit, and the dynamics of total household income. In 2009, the increase in the number of households receiving unemployment benefits was the dominant factor; the increase in the level of unemployment benefits was about 14 percent.

Table 1.4: Annual per capita household consumption was stable in 2009 and fell in 2010

	Average PCC*, Levs, Nominal			Composition of PCC			Change in Real PCC	
	2008	2009	2010	2008	2009	2010	2009/08	2010/09
Total annual per capita consumption, of which:	2780	2857	2811	100	100	100	1.00	0.96
Foods and non-alcoholic beverages	1194	1216	1219	43	43	43	0.99	0.98
Alcoholic beverages and tobacco	142	157	150	5	5	5	1.08	0.93
Clothing and footwear	113	103	93	4	4	3	0.89	0.88
Housing, water, electricity, gas	443	484	470	16	17	17	1.06	0.95
Furnishing / maintenance of the house	122	123	111	4	4	4	0.98	0.88
Health	155	177	181	6	6	6	1.11	1.00
Transport	225	199	197	8	7	7	0.86	0.97
Communication	145	150	153	5	5	5	1.01	1.00
Recreation, culture and education	120	129	114	4	5	4	1.05	0.86
Miscellaneous goods and services	120	120	121	4	4	4	0.97	0.98
<i>Pro memoria</i>								
Consumer price index	1.000	1.028	1.024					

Note: PCC stands for per capita consumption

Source: Bulgaria Household Budget Survey, National Statistical Institute

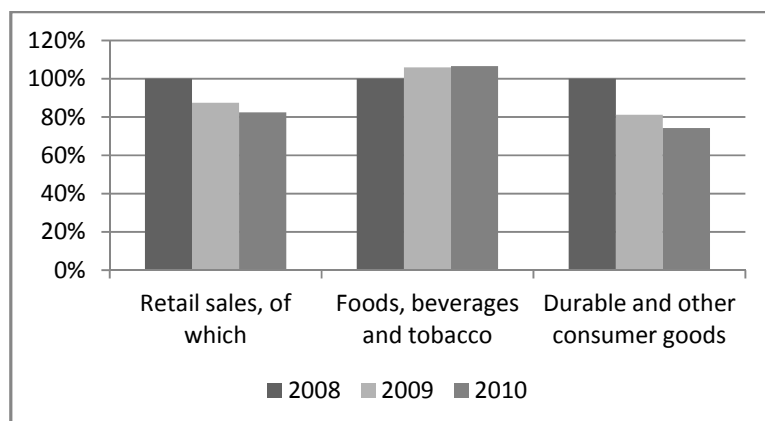
13. **GDP contractions do not necessarily translate into comparable household welfare declines**, i.e. a decrease in current consumption or income of a similar magnitude, in part due to definitional differences that are more pronounced during recessions. In 2009 in Bulgaria, the largest component of the GDP -- the aggregate household consumption -- fell by 7.5 percent. Current household consumption, as measured by the Household Budget Survey, fell by less than 0.1 percent. While there are a number of reasons for these differences (e.g. the difference in the data source of household purchases), one which it is particularly important during recessions is the difference in accounting for the consumption of large-value goods such as durables, vehicles and housing.

14. **The divergent path of different welfare aggregates such as the aggregate household consumption from the System of National Accounts (SNA) and the survey-based estimates of consumption (from HBS) and income (from HBS and CMS) are in part due to methodological differences.** The SNA aggregate consumption measures the *flow* of purchases or goods consumed within the household. Most notably, this includes purchases of new durable goods, vehicles and housing. The survey-based estimates of consumption include the flow of current consumption goods and services, plus the user-value of the stock of durable and housing. During recessions, including the 2009 recession in Bulgaria, the purchase of high-value goods fell sharply, while the consumption of current-consumption items was less elastic. For example, domestic trade volume of food and beverages in Bulgaria has increased in real terms by 6 percent in 2009 compared to 2008, while that of durable and other consumer goods fell by 19 percent (see Figure 1.4). Purchases of high-value goods have fallen even more sharply: purchase of vehicles has dropped by 40 percent and the revenues of construction firms from building or maintaining dwellings by fell by 23 percent.

15. **The stock of dwellings and durables which determines the “consumption” of such goods by households, has continued to rise in 2009 compared to 2008, albeit at a much smaller pace.** Thus, the estimate of household (mostly current) consumption tracked by the Household Budget Survey remained relatively flat, due to the low elasticity of the current consumption basket to the fluctuation in aggregate demand. In contrast, the GDP estimate of

household consumption included the large drop in the purchases of durable goods, vehicles and housing.

Figure 1.2: Dynamics of Retail sales in Bulgaria, 2008-2010



Source: Estimations based on trade statistics published by NSI Sofia

Box 1.1: The Crisis Monitoring Survey

Most of the information presented in the report is derived from the CMS 2010–11. CMS has tracked a representative cross-section of Bulgarian households in February 2010, October 2010 and February 2011. The survey followed about 2,300 households with 6,300 individuals (Table 1.5). The sample is representative for Bulgaria. About 70 percent of the households in the main sample have been re-interviewed three times; they form a panel. Annex 1 describes the survey design (self-weighted, stratified and clustered) and representativity (the key characteristics of our sample compare well with the results of the 2011 Census).

Table 1.5: Crisis Monitoring Survey: Sample size

	Survey wave/ Date:	1st , Feb. 2010	2nd, Sept. 2011	3rd, Feb. 2011
Main Sample	# of households	2384	2298	2329
	# of individuals	6653	6225	6180
of which, Panel	# of households	1686	1686	1686
	# of individuals	4352	4352	4352

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

The Crisis Monitoring Survey (CMS) provides a picture of the welfare of Bulgarian households during 2010, the second year of the crisis and the beginning of the economic recovery. In terms of household (HH) welfare, 2010–11 was a period of relative stagnation following 2009, when Bulgaria reached the bottom of the crisis. We observed HH welfare during 2010–2011, a period when GDP registered a timid growth (only in the 2nd part of 2010, triggered only by an increase in the net export sector). The survey data is fully consistent with the macro trends. In addition, they present a disaggregated picture of the types of households that have been most affected by the crisis (see Chapter 3).

16. For 2010, the CMS data tell a consistent story with the HBS; average household incomes have continued to stay flat during 2010 until the beginning of 2011. The average per capita household income per month in February 2010 was 335 Leva; after one year, it fell to 329 Leva (in constant purchasing power), by 2 percent (Table 1.6). Urban households saw a reduction of about 4 percent in their incomes from February 2010 to February 2011. In contrast, rural incomes remained constant. Incomes remained stable across all income groups, from the poorest to the richest quintile.

Table 1.6: Dynamics of Monthly Household Income during 2010–11
Real per capita household income, in Feb 2010 prices; adjusted with CPI

	February, 2010	October, 2010	February, 2011	February, 2010	October, 2010	February, 2011
	Average per capita income*, in constant Feb 2010 prices			Average per capita income, Feb 2010 = 100 percent		
Total	335	339	329	1.00	1.01	0.98
<i>Area of residence</i>						
Urban	349	355	338	1.04	1.06	1.01
Rural	296	299	305	0.89	0.89	0.91
<i>Quintiles of per capita income</i>						
Lowest quintile	100	106	97	0.30	0.32	0.29
2	202	206	199	0.60	0.62	0.59
3	280	288	273	0.84	0.86	0.82
4	387	392	372	1.16	1.17	1.11
Highest quintile	710	709	708	2.12	2.12	2.12
<i>Pro-Memoria</i>						
Consumer price index	1.000	1.021	1.052			

* (Leva/per capita/month/household)

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

17. The same picture emerges when we look at the dynamics of *different income sources (earnings vs. pensions) over 2010–2011 in the CMS (Table 1.7)*. Earnings (wages and profits of employers and self-employed) and social protection transfers continued to account for the majority of household income during this period. According to the CMS, earnings represented about 70 percent and social protection transfers (mainly pensions) another 25 percent of total household income⁹; these shares have been stable across the three survey rounds. Wages and other earnings picked up in October 2010 (by 6 percent compared to February 2010), likely due to the seasonal peak in economic activity. From October 2010 to February 2011, they remained at the same level. Table A2.1 in the Statistical Annex shows a slight increase in wages coupled with a further deterioration of employee and self-employed incomes. Pension income remained the same during 2010, increasing by 2.3 percent in February 2011. Notably, other social

⁹ Note that the share of earnings versus social protection transfers is different in the CMS than in the Household Budget Survey. This discrepancy is likely due to the sampling differences. The CMS was drawn from a more recent sampling frame and had a lower rate of refusals and replacements than the HBS. Compared to HBS, the CMS has a larger share of employed people, and lower share of SP transfer recipients.

protection income and other incomes (from capital, agriculture or remittances) fell by 15 percent and 23 percent from February 2010 to February 2011.

Table 1.7: Dynamics of the Average Per Capita Household Income* during 2010 and early 2011

	Average Per Capita Income*, Nominal			Dynamics of Real PCY		
	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11
Total income, of which	334.5	346.6	346.0	1.000	1.015	0.983
Earnings: wages, employers, self-employed	227.2	245.4	240.0	1.000	1.058	1.004
Pensions	65.4	66.8	70.4	1.000	0.999	1.023
Other social protection transfers	19.5	18.0	17.4	1.000	0.905	0.847
Other incomes (agr., capital and remittances)	22.2	16.2	18.0	1.000	0.715	0.769
<i>Pro Memoria</i>						
Consumer price index	1.000	1.021	1.052			

* (Leva/per capita/month/household)

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

18. **The dynamics of individual-level earnings tells a more nuanced story.** The changes reported in Table 1.7 are the product of changes in individual-level incomes and of the number of individuals' earnings that type of income. To control for the changes in the number of earners, Table 1.8 follows the average income of individual earners. According to the CMS, real wages went up slightly in February 2011 compared to February 2010 in both the formal (1.6 percent) and informal (7.9 percent) sectors. Self-employment income increased by 6.8 percent, while income from employers fell by about 15 percent. Pensions lost 3 percent, while other social protection transfers lost about 18 percent.

Table 1.8: Dynamics of the Average Per Capita Individual Income during 2010 and early 2011

	Average Per Capita Income, Nominal			Dynamics of Real PCY			percent Sample Earning:
	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11	
Wages, of which:	531	561	571	1.000	1.034	1.023	35.4
Formal-sector wages	538	556	547	1.000	1.034	1.016	34.0
Informal sector wages	390	414	421	1.000	1.060	1.079	1.3
Employment earnings	815	695	696	1.000	0.853	0.853	1.2
Self-employment earnings	534	570	571	1.000	1.066	1.068	3.9
Pensions	237	234	229	1.000	0.988	0.969	28.5
Other social protection transfers	210	221	172	1.000	1.055	0.822	5.3
<i>Pro Memoria</i>							
Consumer price index	1.000	1.021	1.052				

* (Leva/per capita/month/individual)

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

19. **During 2010 and early 2011, income mobility was low.** One way to look at income mobility is to track households that moved up or down the income ladder between February 2010 and February 2011. A simple way to look at this dynamic is to track movements across income quintiles. For example, the first row in Table 1.9 shows that of the households belonging to the poorest (first) quintile in February 2010, a year later 65 percent stayed in the same relative position, 20 percent moved up to the second quintile and another 15 percent moved to the three upper quintiles. Overall, we found that 55 percent of the households have remained in the same quintile in February 2011 as in February 2010, and about 87 percent either stayed in the same quintile, or moved up or down to the next quintile.

Table 1.9: Income mobility in Bulgaria during 2010 was limited

		Quintiles February 2011					Total
		1	2	3	4	5	
Quintiles February 2010	1	65	20	8	5	2	100
	2	18	50	20	11	1	100
	3	9	22	43	20	6	100
	4	5	7	23	46	20	100
	5	2	3	5	19	71	100
Total		20	20	20	20	20	100

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

20. **Another important element that characterizes the living standards of Bulgarian households is their asset holdings, especially their dwelling and the durables they possess.** Given the strong panel feature of the CMS sample and the relative short period of the panel, there were very few changes with regard the dwelling ownership or its characteristics. In contrast, we detect a slight recovery in the purchases of durable goods in 2010 compared to 2009.

Table 1.10: Endowment with Household Goods and Purchases during Last Year

	Percent Owning		Percent of households purchasing during:	
	Feb-10	Feb-11	2009	2010
Color TV	99	99	4.3	5.4
Video player, DVD	40	40	1.0	1.2
Video camera, camera	32	31	3.1	3.8
Satellite antenna	26	25	1.7	2.1
Audio system	27	26	0.5	0.8
Electric or gas stove	92	93	2.5	2.7
Microwave oven	54	57	2.3	2.9
Refrigerator	96	95	2.6	2.8
Freezer	44	45	1.3	2.1
Washing machine	88	88	2.5	3.0
Dishwasher	9	9	1.6	2.0
Computer	47	48	6.0	6.0
Telephone	58	54	1.2	2.0
Mobile phone	84	84	11.8	15.4
Motorcycle/scooter	6	5	0.3	0.4
Car, minibus, jeep	50	49	2.3	2.1
Truck	2	1	0.2	0.1
Second dwelling, or vacation home	14	14	0.5	0.0

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

21. **Bulgarian households own a diversified and relatively large stock of durables, to which they added little during the 2009 crisis year; a small increase is apparent during 2010.** Similar to preceding Living Standards Measurement Surveys¹⁰, the Crisis Monitoring Survey confirms that Bulgarian households own a diversified stock of household durable goods (Table 1.10). Almost all households have televisions, a stove, refrigerator or washing machine, or a phone; half of the households own a car, a freezer, a microwave stove, video equipment or a computer. During a crisis period, the stock of durables is not expected to change much. Purchases of new durables, however, are typically affected by a crisis, through the so-called portfolio effect, when households are increasing their savings and reducing their spending on high-value, bulky durables. The CMS captures the share of households that have purchased durables in the previous year (2009 for the February 2010 wave, and 2010 for the February 2011 wave). We observe that purchases of durables have shown a slight improvement in 2010 versus 2009, with the exception of high-cost investments such as purchases of a car, truck or a second house, which still go down in 2010 versus 2009).

22. **Given the limited dynamics of household incomes, overall poverty rates changes little in 2010 and early 2011 (Table 1.12).** As the CMS captures only income¹¹, we measured income poverty using two methods: absolute and relative. *Absolute poverty*¹² was measured against a fixed poverty line of 255 Lev per adult equivalent¹³ per month. The absolute poverty headcount registered a slight increase from 21.1 percent in February 2010 to 23 percent in February 2011, driven by the increase in poverty in the urban areas where 72 percent of the population lives. Rural poverty registered a small decline during October 2010 (due to seasonality, the peak of the agricultural harvest season). Distribution-sensitive measures of poverty, such as the poverty gap and the square poverty gap, exhibit the same dynamics. *Relative poverty* was measured using the same adult equivalence scheme, but against a line equal to 60 percent of the median income of each survey wave; relative poverty changes were less pronounced than the absolute ones, reflecting small changes in income inequality (see Table 1.11, next page).

¹⁰ Multitopic household surveys using the LSMS template have been carried on by Gallup in Bulgaria in 2001, 2003 and 2007.

¹¹ See Annex 2 on the construction of the income aggregate.

¹² The poverty methodology used in the report approximates two Eurostat poverty indicators and differs from the national methodology as described in the Decree of the Council of Ministers No 345 of 2006.

¹³ We use the OECD adult equivalence scheme that weights the first adult as 1, other adults as 0.5, and children (less than 14 year old) as 0.3. $AE = 1 + 0.5*(A-1) + 0.3*C$, where AE is the number of equivalent adults, A is the number of adults and C is the number of children in the household.

Table 1.11: Poverty dynamics during 2010–2011

	Poverty Headcount Rate (P0)			Poverty Gap (P1)			Squared Poverty Gap (P2)		
	Feb-10	Feb-10 Oct-10	Feb-11	Feb-10	Feb-10 Oct-10	Feb-11	Feb-10	Feb-10 Oct-10	Feb-11
Absolute Poverty Line (255 Lev, or 60% of Median Income per Adult Equivalent in Feb-10)									
Area of residence									
Urban	19.6	20.4	22.4	7.1	7.1	8.6	4.0	3.8	5.1
Rural	25.2	23.3	24.6	8.3	6.9	7.1	4.4	3.2	3.4
Total	21.1	21.2	23.0	7.5	7.1	8.2	4.1	3.7	4.6
Relative Poverty Line (equal to 60% of Equivalised Median Income in each survey round)									
Area of residence									
Urban	19.6	20.1	21.0	7.1	6.9	8.2	4.0	3.7	4.8
Rural	25.2	22.7	22.7	8.3	6.7	6.5	4.4	3.1	3.1
Total	21.1	20.8	21.5	7.5	6.9	7.7	4.1	3.6	4.4

Note: The *poverty headcount* measures the proportion of the population with incomes below the poverty line. The *poverty gap index*, adds up the extent to which individuals on average fall below the poverty line, and expresses it as a percentage of the poverty line. The *squared poverty gap* is a measure that takes into account inequality among the poor; it is a weighted sum of poverty gaps (as a proportion of the poverty line), where the weights are the proportionate poverty gaps themselves;

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

23. **The crisis has not substantially changed the poverty profile.** The groups at high risk of poverty are similar to those identified in earlier studies (INS 2010; World Bank 2009). Households with a higher risk of poverty are those with unemployed or inactive heads (and adults); with no or primary education; female-headed; with many children and/or of large size; and of Roma and Turkish minorities.

24. **Human capital and the characteristics of employment continue to play a key role in determining the risk of being poor:**

- *Employment of the household head.* Households where the head is employed in the public or private sector face a relatively low risk of poverty (8.3 percent and 12.6 percent respectively in February 2011). Households with inactive heads—a large share of them pensioner-headed households—are almost three times more likely to be poor (poverty headcount of 33.1 percent in February 2011). Finally, households whose head is unemployed are facing a very high risk of poverty (of 70.3 percent in February 2011), which will increase significantly over time. This group of households is relatively small (6.9 percent of the total population in February 2011), but remains a clear and deep pocket of poverty.
- *Sector of employment.* Households whose head works in agriculture represent about 8–9 percent of the total population but almost a quarter of the total number of poor. They face higher odds of being poor. During 2010–11, the poverty headcount among this group went up from 23.6 percent in February 2010 to 27.8 percent in February 2011.

- *Education of the household head.* The level of education of the household head is one of the strongest proxies of the risk of poverty, with risk decreasing monotonically with the level of education. In February 2011, about half of the households headed by an adult with no or primary education were poor, compared to only 7.8 percent of households whose head had university-level education.

Table 1.12: Poverty profile during 2010–2011

	Poverty Rate		Headcount		Distribution of the Poor		Distribution of the Population		of
	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11
Total	21.1	21.2	23.0	100.0	100.0	100.0	100.0	100.0	100.0
Employment status, household head									
Public sector worker	7.6	8.7	8.3	5.1	5.9	5.1	14.2	14.3	14.0
Private sector worker	10.3	11.6	12.6	16.0	18.7	18.8	33.0	34.4	34.2
Worker, type of empl. missing	12.2	11.4	11.7	7.7	6.7	5.2	13.4	12.5	10.3
Unemployed	62.5	60.9	70.3	23.4	18.1	21.2	7.9	6.3	6.9
Inactive	32.2	33.2	33.1	47.8	50.7	49.7	31.5	32.4	34.5
Education of the household head									
Primary or less	47.1	44.3	48.5	56.6	53.0	53.5	25.3	25.3	25.3
Secondary	14.5	16.4	16.9	35.6	38.9	37.8	51.8	50.2	51.4
University	6.9	6.1	7.8	7.1	6.8	7.7	21.7	23.6	22.8
Sector of employment									
Agriculture	23.6	25.1	27.8	22.9	24.3	23.4	9.4	9.1	8.2
Manufacturing & utility	10.3	7.9	10.0	10.0	9.0	10.3	9.4	10.7	10.0
Construction	15.3	11.7	14.3	14.0	11.4	13.1	8.9	9.1	8.9
Services	7.1	7.3	7.1	53.1	55.3	53.2	72.3	71.2	72.9

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

25. **Another key covariate of the risk of poverty is the demographic profile of a household: the gender of the household head, age, number of children (dependency) and household size (Table 1.13).** Consistent with the findings of previous studies, poverty headcount is higher among female-headed households and households with more children or other members, such as extended family. The age groups with above-average poverty risk are the young (0–19 years old) and the old (over 60 years old). One age group whose poverty rate worsened significantly during 2010 is youth (20–24 years old). This group is most affected by unemployment.

Table 1.13: Poverty profile during 2010–2011

	Poverty Headcount Rate			Distribution of the Poor			Distribution of Population		
	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11
Total	21.1	21.2	23.0	100.0	100.0	100.0	100.0	100.0	100.0
Gender of the household head									
Male	19.7	19.5	21.1	77.1	74.4	74.9	82.8	81.3	81.5
Female	28.3	29.1	31.2	22.9	25.6	25.1	17.2	18.7	18.5
Age									
0–5	26.0	26.2	27.2	5.8	6.1	5.6	4.7	5.0	4.7
6–14	25.4	23.6	27.4	10.3	9.4	9.7	8.6	8.4	8.1
15–19	28.9	26.8	32.6	7.9	7.0	7.5	5.8	5.5	5.3
20–24	18.2	20.3	22.3	5.3	5.6	5.6	6.2	5.9	5.7
25–29	17.4	19.5	18.6	5.6	5.9	5.1	6.7	6.4	6.3
30–34	20.6	17.4	22.0	6.6	5.6	6.2	6.8	6.8	6.5
35–39	19.7	18.0	18.9	6.8	6.1	5.8	7.3	7.2	7.0
40–44	20.2	19.5	20.2	7.1	6.6	6.1	7.4	7.2	7.0
45–49	14.9	17.8	18.5	5.2	6.0	5.8	7.3	7.1	7.2
50–54	18.6	15.0	16.1	6.3	5.1	5.5	7.2	7.3	7.8
55–59	17.9	16.4	19.3	5.7	5.5	6.0	6.7	7.1	7.2
60–64	20.7	21.2	24.7	6.6	7.1	7.8	6.7	7.1	7.2
65+	23.4	26.7	27.0	20.6	23.9	23.6	18.6	19.0	20.1
Number of children									
no children	19.1	19.5	21.6	71.8	72.4	75.1	79.2	78.7	80.0
1	24.3	22.7	24.8	19.0	18.3	16.6	16.4	17.1	15.3
2	41.9	41.6	39.1	8.1	7.4	7.3	4.1	3.8	4.3
3 or more children	100.0	81.3	71.4	1.1	2.0	1.1	0.2	0.5	0.3
Household size									
1	36.3	40.6	43.1	10.4	12.6	13.2	6.0	6.6	7.1
2	17.6	17.7	18.3	18.9	20.4	20.2	22.6	24.5	25.4
3	14.3	11.9	15.6	16.4	13.8	17.1	24.2	24.6	25.1
4	14.1	17.2	19.5	18.2	21.2	21.9	27.2	26.2	25.8
5	31.1	27.4	33.6	16.6	13.1	13.5	11.2	10.1	9.2
6	44.6	45.8	38.5	12.5	12.4	8.5	5.9	5.8	5.1
7 or more	52.2	59.2	56.6	7.0	6.5	5.5	2.8	2.3	2.2

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

26. **A resilient feature of the poverty profile in Bulgaria is its ethnic dimension (Table 1.14).** The risk of poverty is three times higher for the Turkish minority than for the majority Bulgarian-ethnic households, and more than four times higher for the Roma households. These two groups, accounting for about 15 percent of the total population, continue to be another distinct pocket of poverty in Bulgaria.

Table 1.14: Poverty profile during 2010–2011

	Poverty Headcount Rate			Distribution of the Poor			Distribution of Population		
	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11	Feb-10	Oct-10	Feb-11
Total	21.1	21.2	23.0	100.0	100.0	100.0	100.0	100.0	100.0
Ethnicity									
Bulgarian	14.1	15.5	16.4	55.5	61.4	59.1	82.5	82.9	83.1
Turkish	41.4	43.4	50.9	18.7	21.1	22.0	9.5	10.2	9.9
Roma	72.5	64.4	68.4	23.1	15.1	15.4	6.7	4.9	5.2

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

27. **Income inequality increased during 2010 and early 2011.** With CMS, income inequality is measured via the Gini index of per adult equivalent income. The Gini index was 36 percent in February 2010. It dropped by one percentage point during the fall (seasonal peak of activity), and rose again, to 36.5 percent, in February 2011 (Table 1.15). The increase in inequality over such a short period of time, on the background of stable average household incomes, explains the increase in poverty. Our estimates on income inequality are similar to those obtained for earlier years using the EU Survey of Income and Living Conditions¹⁴ (35.9 percent in 2007 and 33.5 percent in 2008).

Table 1.15: Poverty profile during 2010–2011

Survey Wave:	Gini Index
February, 2010	35.96
October, 2010	35.05
February, 2011	36.51

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

¹⁴

See Bulgarian National Statistical Institute website: <http://www.nsi.bg/otrasalen.php?otr=44>

2. HOUSEHOLD-LEVEL ECONOMIC SHOCKS DURING 2010

28. *The CMS was designed to capture a wide range of economic shocks, originating from the labor, financial or product markets, or from lower government transfers¹⁵. Only some of these shocks occurred because of the global economic crisis. While we cannot separate the share of economic shocks caused by the crisis from those that were not, tracking the incidence of shocks and the ability of households to cope can inform policy makers and the general public of whether or not the crisis is abating. This information allows us to assess the relative importance of different transmission channels through which the macro shocks have affected households, especially those that are poor and vulnerable. By tracking how households adjust to the crisis, the report informs policy makers on how to design public policies that minimize copings strategies that have negative, long lasting impact on household welfare.*

29. *In February 2010, about a third of Bulgarian households reported effects from income shocks. Who has been affected and how? The key transmission channel of income shocks was the labor market. About one third of the active population reported labor market shocks in February 2010, with a minority affected by unemployment (5 percent), and many more by cuts in wages or duration of employment – another 30 percent.¹⁶ Over time, the share of households reporting economic shocks has declined. About 34 percent of households reported to be affected by the economic shocks in February 2010. The situation improved in October 2010 and February 2011, as only 27 percent of households reported affected by the crisis in later period. However, there was no further improvement between October 2010 and February 2011.*

30. *Similar to other crisis episodes in the past (see Box 1 in chapter 2), a relatively fast recovery of output was accompanied by a sluggish labor market recovery; by February 2011, labor market conditions continued to deteriorate. During this period, unemployment stabilized while employment losses continued. The overall percentage of population that was employed fell by about 3 percentage points, primarily as older workers (over 64 years) stopped working. Employment among working age adults (15–64 years) remained stable and relatively high at around 62 percent. Unemployment remained high, with a fall in October 2010 due to the*

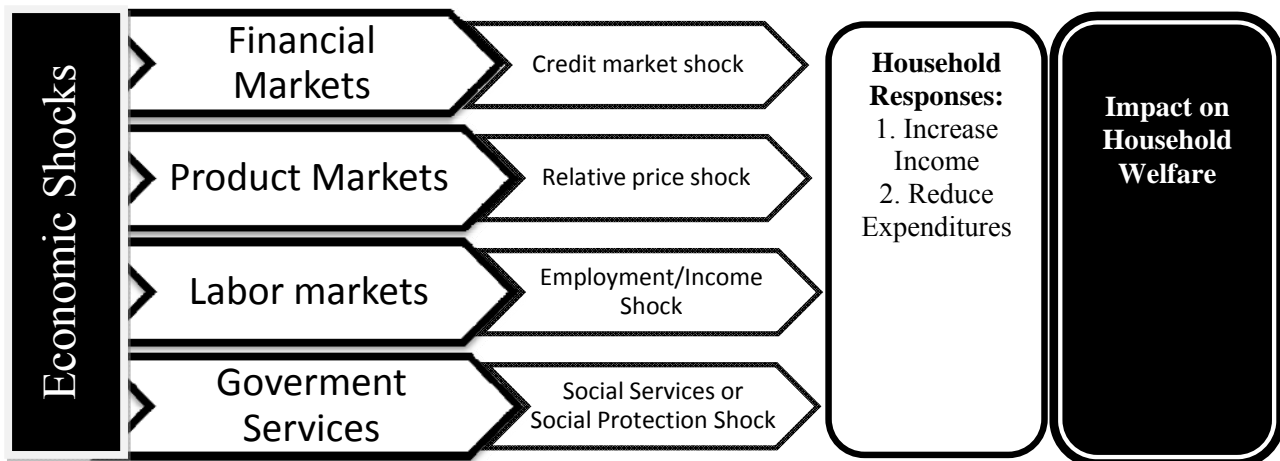
¹⁵ The **labor market shocks** captured by the CMS include job losses (incurred by unemployed or discouraged workers over the past 12 months) or erosion in the quality of employment (reported by the current stock of employees) such as wage arrears; lower wage earnings, switching from full-time to part-time work, or being forced to take unpaid leave or work without compensation. Self-employed report whether they have experienced payment arrears, a fall in the demand for their business or being forced to close the business. The **financial shocks** include lower capital or interest income, eroding savings, or an increase in mortgage payments. Finally, households are reporting whether the **receipt of pensions or social benefits** has been discontinued. All households that reported at least one such incident during the past 12 months are labeled as households affected by economic shocks.

¹⁶ Approximately 30% of households reported a decline in income between March 2009 and February 2010. These income shocks primarily through lost or reduced employment or wages —approximately 34% of workers reporting an income shock through their primary job. Job loss that results in unemployment is the most severe type of labor market shock and has affected 5% of workers. Reductions in wages and work hours, a more moderate shock, are more widespread, affecting close to 30% of workers.

seasonal increase in agricultural employment. The population groups with the highest risk of unemployment include those with low education, Roma, and the poor. The labor market was the major transmission channel of economic shocks the crisis, with a majority of households reporting being affected through a household member losing job or experiencing a reduction in salary or hours worked.

31. **A framework for understanding the impact of economic shocks on household welfare.** To understand the social impacts of the crisis, it is instructive to trace the transmission channels through which a macroeconomic shock affects individual households (The Job Crisis, World Bank 2011). An economic shock can affect household welfare through four such channels: (i) financial markets (via reduced access to credit, eroding savings and asset values); (ii) labor markets (via reduced employment, wages and remittances); (iii) product markets (via lower growth and production, relative price changes); and (iv) government services (via reduced education, health and social protection services) (See Figure 2.1)

Figure 2.1: Transmission Channels of Macroeconomic Shocks



Source: The Job Crisis: Households and Government Responses to the Great Recession in Eastern Europe and Central Asia, World Bank (2010)

32. **Financial markets can transmit an economic crisis through declining real estate prices, changes in interest or inflation rates, falling stock market values and credit availability.** Product markets can transmit an economic crisis when commodity prices, assets, exchange rates and taxes/tariffs change, which in turn alter the profitability of these sectors, and affect wages and employment. Labor markets can transmit an economic crisis when sector profitability is affected or when governments pursue contractionary policies. The impact on labor markets depends on the institutional structure of the labor markets in the country, but usually includes some combination of employment, wage, benefits and hours-of-work reductions; wage arrears accruals; reduced demand for household enterprise products; and shifts from formal sector to informal sector employment. Government service provision can transmit an economic crisis through reductions in education, health and social protection services, among other government services (The Job Crisis, World Bank 2011).

33. **When households experience an income shock—regardless of the source—they are likely to adjust their behavior accordingly.** These responses are sometimes called mitigation

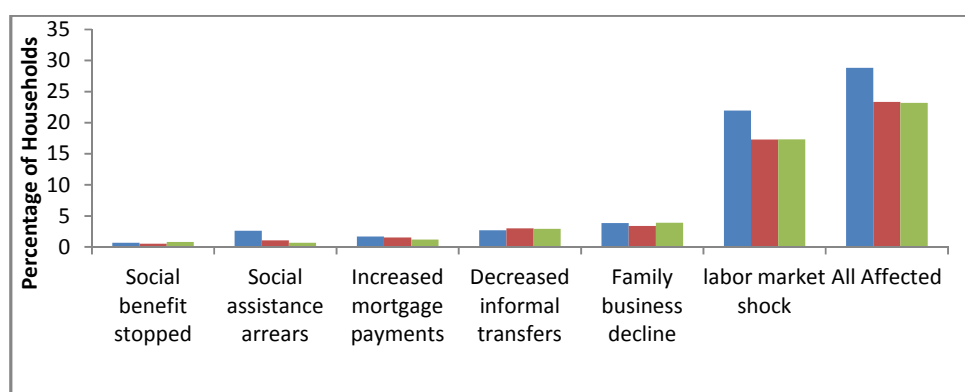
strategies. Households have two broad mechanisms for responding to an income shock: by increasing their income from other sources (including formal safety nets) or reducing expenditures. Most households have access to some types of responses, but not others. Poor households are often less able to increase income by working more, spending savings, or borrowing money. They may also be less able to access unemployment benefits if they are employed in the informal sector. On the other hand, they may be better positioned to access last-resort social assistance. The extent to which a crisis affects household welfare (poverty, long-term human capital accumulation) depends on a household's response to an income shock (The Job Crisis, World Bank 2011).

2.1 Incidence of Income Shocks during 2010 in Bulgaria

34. **How have we measured the incidence of income shocks with the CMS? The labor market shocks** captured by the CMS include job losses (incurred by the unemployed or discouraged workers over the past 12 months). They also include erosion in the quality of employment (reported by the current stock of employees) such as wage arrears, wage reductions, switching from full-time to part-time work, or being forced to take unpaid leave or work without compensation. The self-employed report whether they have experienced payment arrears or a fall in demand, or been forced to close the business. **Financial shocks** include lower capital or interest income, eroding savings, or an increase in mortgage payments. Finally, households report whether **pensions or social benefits** have been discontinued. Any household that reported at least one such incident during the past 12 months is labeled as affected by economic shocks.

35. **Household-level shocks.** About 29 percent of households in Bulgaria reported income shocks in the 12 months before February 2010. The main transmission channel of these shocks was the labor market, with 22 percent of households reporting a labor-related shock. Other impacts, including those from the global labor market (i.e., remittances) affected a much smaller percentage of households. Some households also reported credit-market shocks (increased mortgage payments), and declining government services (social assistance arrears). It is difficult to isolate the impact of a relative price shock on households through a CMS, but the macroeconomic data indicates that prices remained relatively stable in Bulgaria during 2009 and 2010. Thus, relative prices were unlikely to be a significant factor in household level income shocks.

Figure 2.2: Sources of household income shocks

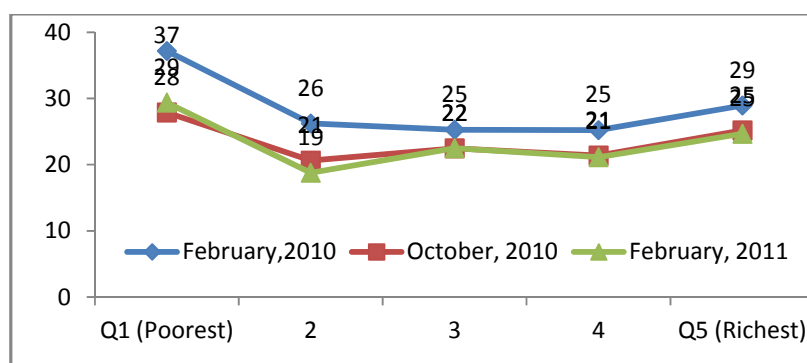


36. **The overall situation improved marginally between February and October 2010, as only 23 percent of households reported income shocks in October 2010.** However, there was no further improvement between October 2010 and February 2011, as the percentage of households reporting income shocks remained the same. This is one sign that the economic crisis

is abating. Most of the decline in the incidence of income shocks between February and October 2010 came through improvement in the labor market, as only 17 percent of households in October reported job loss or salary reduction, compared to 22 percent in February. However, the labor market remained the primary source of income shocks to households, with 17 percent of the households reporting a labor market shock in both October 2010 and February 2011.

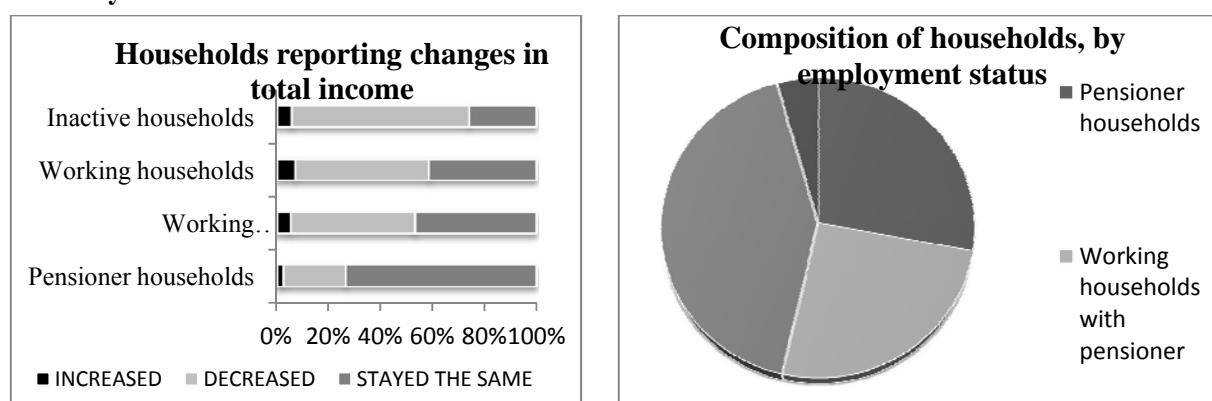
37. **Households experienced income shocks across the entire welfare distribution** (welfare estimated by per capita adult equivalent income). However, a larger proportion of households belonging to the poorest quintile were impacted by such shocks (Figure 2.3). The ability of poorest households to cope with a sudden shock is generally low as they struggle to meet their needs even in normal times.

Figure 2.3: Share of households impacted by income shocks, across quintiles



38. **Given that the labor market was the most important source of income shocks, it is not surprising that working households were most likely to report a labor market shock.** The presence of a pensioner in a household may act as a safety net during crisis, as those households are in a better position to sustain their consumption even during an economic shock. Around 54 percent of the households in Bulgaria reported presence of a pensioner in their household (see Figure 2.4).

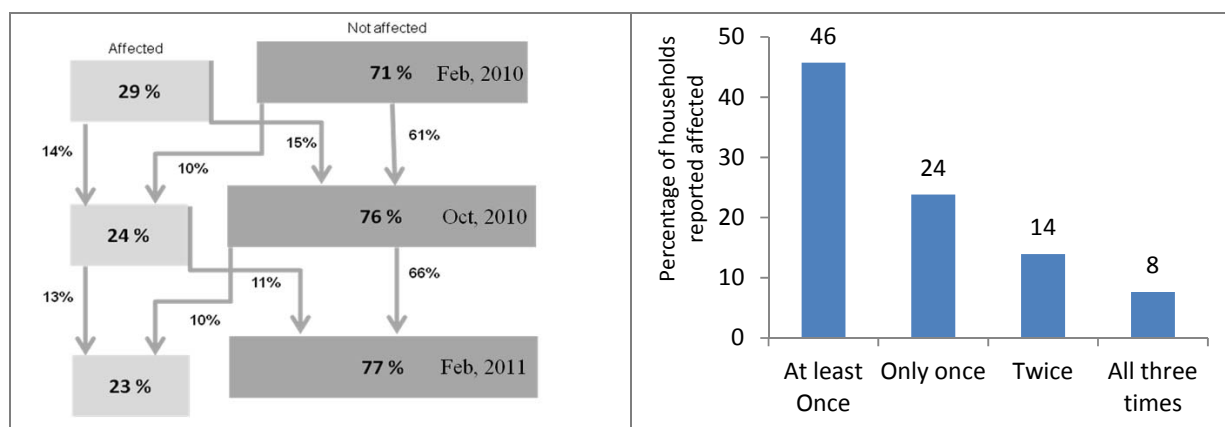
Figure 2.4: Fewer pensioner households reported a decline in income during the past year , February 2010



39. **As a crisis unfolds, it affects different households differently and at different point in time.** There is a possibility that an affected household might recover (e.g. a member who loses his job in a crisis finds another job), and that new households might be affected. Concentrating on households that reported in all three waves of the CMS, we found that around 46 percent reported an income shock at some point of time during the entire previous year (they responded “affected” in any one of the three waves, see Figure 2.5). This is a much larger impact of crisis

than reported in Figure 2.3. However, for many households the income shock was temporary, as they recovered over time. About 24 percent of the households reported income shocks only at one point in time, implying that many households recovered as the crisis unfolded. Fourteen percent of households reported income shocks in either of the two waves. Only 8 percent of the households reported experiencing income shocks in all three survey waves. These households were unable to recover because of bleak prevailing conditions.

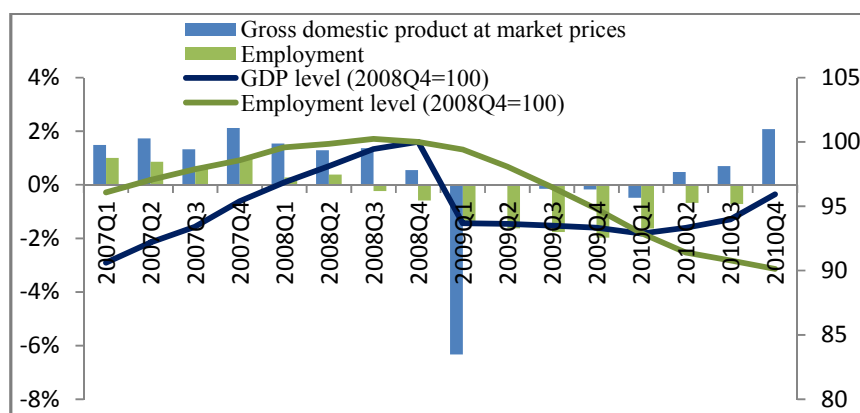
Figure 2.5: Prevalence of Economic Shocks during February 2010- February 2011, Panel Household Only



2.2 Labor market situation and labor market shocks

40. **A sluggish recovery dampened by unemployment.** Output growth started to recover in 2010 aided by a strong external demand (World Bank, Country Partnership Strategy). For the first time since the start of the crisis, GDP grew in Q2-2010 by 0.5 percent year-on-year, with growth accelerating to 1.7 percent in Q4-2010. Economic recovery was led by exports which rebounded to pre-crisis levels by Q3-2010. Unfortunately improvements in external demand, did not translate into improvements in the domestic demand. Consumption, held back by high unemployment and tight credit market, contracted in the first three quarters of 2010 while investment continued to decline, albeit at a slower pace. Manufacturing, trade, and tourism sectors benefitted from the pick-up in global demand, while construction and real estate, that led growth in the pre-crisis period, continued to contract. Annual GDP growth remained flat in 2010 and is projected to pick up in 2011 to about 3 percent.

Figure 2.6: Quarterly change in GDP and employment in Bulgaria



Source: Eurostat: Seasonally adjusted variables.

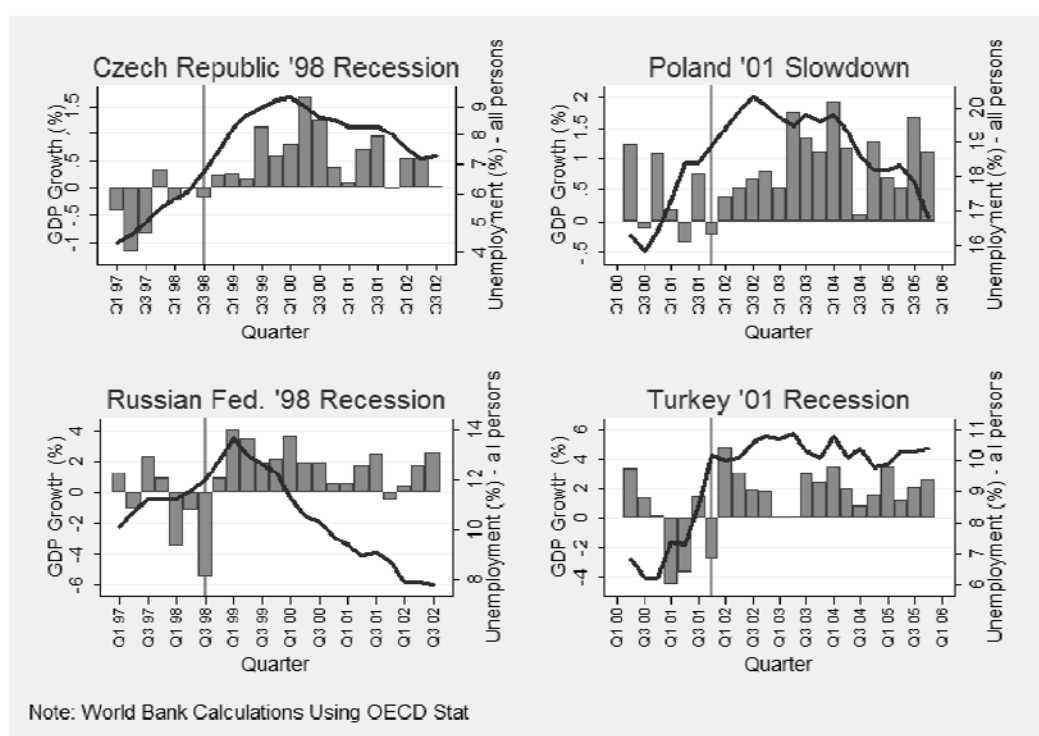
41. **Quarterly macroeconomic data suggests that the recovery was slowed down by the situation on the labor market;** see figure 2.6. The reduction in employment occurred two quarters before the major drop in GDP in the first quarter of 2009 which marked the recession. But unemployment rise persisted until the end of 2010, while the growth of GDP has been positive since the second quarter of 2010. Therefore, it will take several years for employment to close the gap. This phenomenon is not specific to Bulgaria; Box 2.1 reviews four other recession episodes from Central or Eastern Europe that exhibit the same pattern.

Box 2.1: Dynamic of unemployment after a recession

After a recession, it usually takes some time before unemployment goes back to its crisis level. Figure 2.7 illustrates this point by displaying the quarterly GDP growth and the evolution of the unemployment rate before and after a recession for a selection of countries of the ECA region.

The end of the recession is marked by a vertical orange line as the first quarter where the growth of GDP becomes positive again. In all cases, the unemployment rate continues to grow after the end of the recession.

Figure 2.7: Unemployment dynamic after a selection of recent recessions



42. **A key determinant of household welfare is earnings, an income source that has accounted for 70 percent of the total household income during Feb-10 to Feb-11.** Earnings are derived from employment, including formal and informal workers, self-employed and employees. The dynamics of employment and average earnings are a key determinant of the changes in household welfare. Table 2.1 summarizes the main indicators of the labor market during the period of implementation of the CMS. In February 2011, the total population of

Bulgaria that was working (employed) fell from 50.6 percent to 47.7 percent, by three percentage points. This reduction was due to a reduction in the employment rate of the elderly, from 8.8 percent in February 2010 to 5.8 percent a year later. The relative gain in activity rate among 15–64-year-olds (from 71.1 percent to 72.3 percent a year later) was sufficient to compensate for the reduction in working age population (due to aging). Employment among working age adults (15–64 years old) remained stable and relatively high at around 62 percent. The reported unemployment rate in the month of February was similar in 2010 and 2011 (13.8 percent), and 2 percentage points lower during October 2010 thanks to the seasonal peak in agriculture. Over the survey period, median earnings lost about 10 percent of their purchasing power¹⁷, becoming more unequal.

Table 2.1: Hierarchical Decomposition of the Labor Force (Hierarchical rates)

	Feb-10	Oct-10	Feb-11
0. Total population	100.0	100.0	100.0
1. Population 0 years and above	100.0	100.0	100.0
1.1 Child population (0–14 years of age)	13.2	13.3	12.8
1.2 Population 65+ years of age	18.5	18.9	20.0
1.2.1 Employed	8.8	7.2	5.8
1.3 Working age population (15–64 years of age)	68.2	67.8	67.2
1.3.1 Inactive	28.9	27.5	27.7
1.3.2 Active	71.1	72.5	72.3
1.3.2.1 Employed	86.1	88.2	86.2
1.3.2.2 Unemployed	13.9	11.8	13.8
<i>Pro Memoria</i>			
Employment rate, working age population	61.2	63.9	62.3
Median earnings	450.0	460.3	427.8
Gini coefficient for earnings	31.5	32.4	33.3

Source: Crisis Monitoring Survey OSI-WB, 2010–2011

43. **From February 2010 to February 2011, the overall unemployment rate estimated from CMS hovered around 13.8–13.9 percent, but increased among vulnerable population groups such as youth, Roma, those with little education and those in the poorest (per adult equivalent) quintile.** Tables 2.2 offers a profile of those unemployed. The overall dynamics of unemployment during the CMS shows an improvement during October 2010, followed up by an increase in February 2011. The rate of unemployment was relatively stable across areas or residence, or for males versus females. For other household characteristics, associated with poverty and vulnerability, unemployment increased during the period of the CMS:

- *Youth unemployment* rose from 27 percent to 35.9 percent from February 2010 to February 2011. Over the same period, youth accounted for a greater share of total unemployed, rising from 17 percent to 22 percent. Median earnings for youth remained at the same level during this period (with a seasonal increase during the fall). However, youth lost about 5 percent of their purchasing power due to inflation. At the same time, the unemployment rate fell by one percentage point for adults aged 25–54, the groups with the best employment prospects.

¹⁷ Median earnings fell by 5 percent in nominal terms (See Table 2.14), plus another 5 percent due to inflation from February 2010 to February 2011.

- *Ethnic Roma* faced not only higher odds of being unemployed (four times higher than the majority Bulgarian population), but their unemployment rate increased to 55.8 percent in February 2010, compared to 49.4 percent a year earlier.
- *Adults with low education (primary or less)*, faced unemployment rates that were three times the average, or 40.9 percent in February 2011; the unemployment rate among this group went up three percentage points from February 2010 to Feb 2011.
- *Adults from poor households* were more likely to be unemployed. The unemployment rate for the poor (approximately the poorest quintile of the population) reached about 50 percent in Feb 2011, increasing by more than four percentage points from February 2010 (when it was 45.7). Although this group represents only 20 percent of the population, it accounts for 55.8 percent of the unemployed. During the CMS implementation, the median earnings for this group lost about 10 percent of their purchasing power.

44. There is substantial overlap among these vulnerable groups: adults with low education and low earnings tend to be found disproportionately among the poor.

Table 2.2: Unemployment Rates among Selected Groups

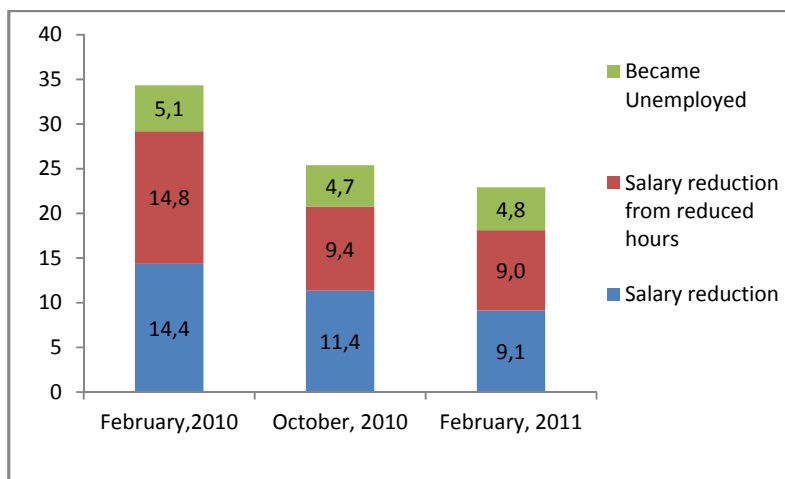
For the population group aged 15–64 years

	Unemployment Rate by Groups			Group Share Among Unemployed		
	Feb-10	Oct-10	Feb-10	Feb-10	Oct-10	Feb-10
Total Gender	13.9	11.8	13.8	100.0	100.0	100.0
Male	14.5	12.0	14.6	55.0	53.6	56.5
Female	13.1	11.6	12.8	45.0	46.4	43.5
Age						
15–24	27.0	24.7	35.9	17.0	18.1	21.7
25–54	12.7	10.6	11.7	69.6	67.2	63.5
55–64	12.3	10.5	12.1	13.4	14.7	14.7
Ethnicity						
Bulgarian	10.1	9.2	9.9	61.5	66.5	60.9
Turkish	28.2	21.1	27.1	18.8	17.0	19.1
Roma	49.4	44.4	55.8	19.0	15.6	17.4
Other	9.1	5.7	22.9	0.7	0.8	2.7
Area of residence						
Urban	14.0	12.2	13.8	74.9	76.1	75.0
Rural	13.4	10.6	13.6	25.1	23.9	25.0
Education level						
Primary or less	37.8	28.0	40.9	32.4	29.4	36.5
Secondary	13.3	12.1	12.9	55.3	56.7	52.7
University	5.3	4.8	4.4	11.2	12.8	9.9
children	12.5	15.4	30.8	1.1	1.1	1.0
Poverty Status						
Non poor	8.0	6.4	7.2	49.0	46.1	44.2
Poor	45.7	43.5	49.8	51.0	53.9	55.8
Quintiles						
Lowest quintile	46.8	44.2	51.6	51.1	54.4	57.2
2	18.6	20.2	18.6	19.7	24.9	19.5
3	11.3	6.0	9.3	15.6	10.2	13.2
4	5.1	3.0	3.7	8.7	6.4	6.6
Highest quintile	2.3	1.6	1.6	4.8	4.1	3.5

Source: Crisis Monitoring Survey OSI-WB, 2010–2011.

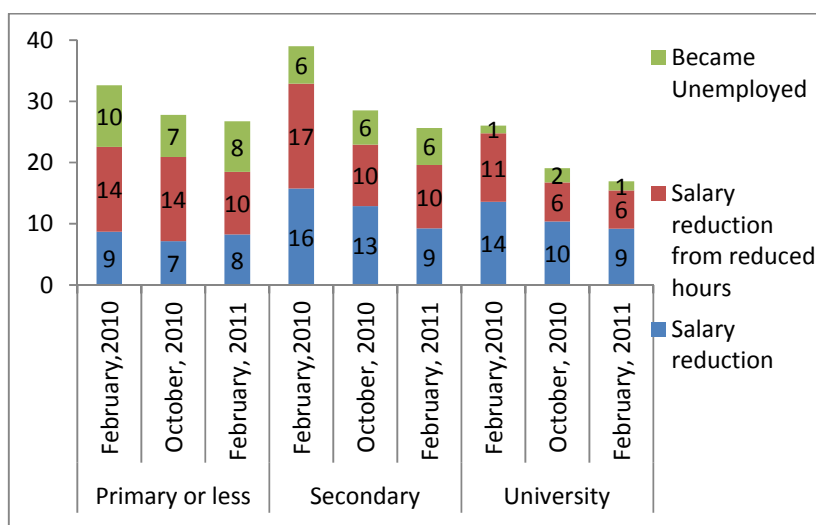
45. **During an economic shock, firms can control labor costs** by laying off workers, halting new worker hires, or implementing measures that affect currently employed workers. These measures might include reducing wage rates or hours of work, shifting workers from permanent to temporary status, putting workers on administrative leave, or accumulating wage arrears. During the recent crisis, the pain of the recession was far more broad-based than job-loss figures suggest. For example, in February 2010, almost six times more workers took home smaller paychecks than lost their jobs. Wage adjustments such as smaller paychecks may have muted worker layoffs to some extent. However, household welfare deteriorated as take-home pay shrank. The labor market in Bulgaria showed some improvement between February and October 2010 as the percentage of workers receiving a smaller salary declined. This may be a seasonal improvement, as demand is generally higher in summer months. However, there have been certain improvements in the labor market when comparing February 2011 with February 2010.

Figure 2.8: Percentage of Workers reporting Labor Market Shocks



Note: The denominator is workers who were employed twelve months ago (current workers not working in the retrospective period are excluded).

Figure 2.9: Labor market shocks by education

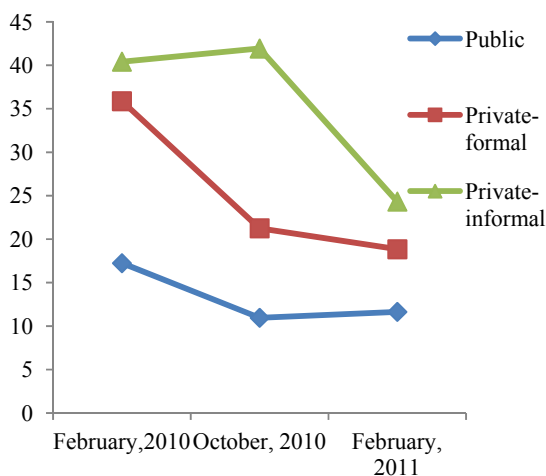


46. **The impact of the crisis was felt differently by different education groups.** Only a few university graduates lost jobs, while the incidence of job loss was much higher among less-educated groups. However, higher education could not shield workers from earnings reductions. Firms kept their skilled workers by adjusting their earnings rather than firing them. In addition, the labor market adjustment took place irrespective of type of employer. Workers employed both in the public and private sectors reported a decline in earnings. However, the percentage of workers reporting such a decline was much lower in the public than in the private sector. Private informal employment is not big in Bulgaria: *only about four percent of workers reported working informally*, although a large proportion of informal workers reported reductions in earnings.

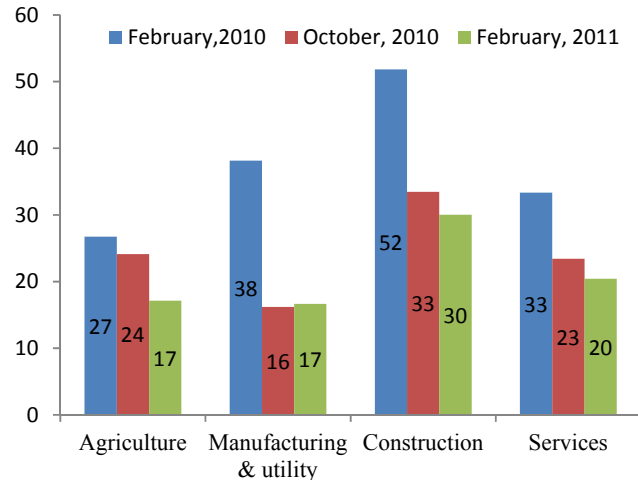
47. **Almost all sectors were affected by the crisis; construction was the sector most affected, followed by manufacturing and services.** Agriculture was the least affected during the initial phases of the crisis. In February 2010, almost 52 percent of construction workers reported a decline in earnings, compared to 38 percent of those in the manufacturing sector. The overall situation improved significantly between February and October 2010, when only one third of construction workers reported declines in salary. A similar improvement was observed across all other sectors that year.

Figure 2.10: Labor market shock by employer and sector

By employer

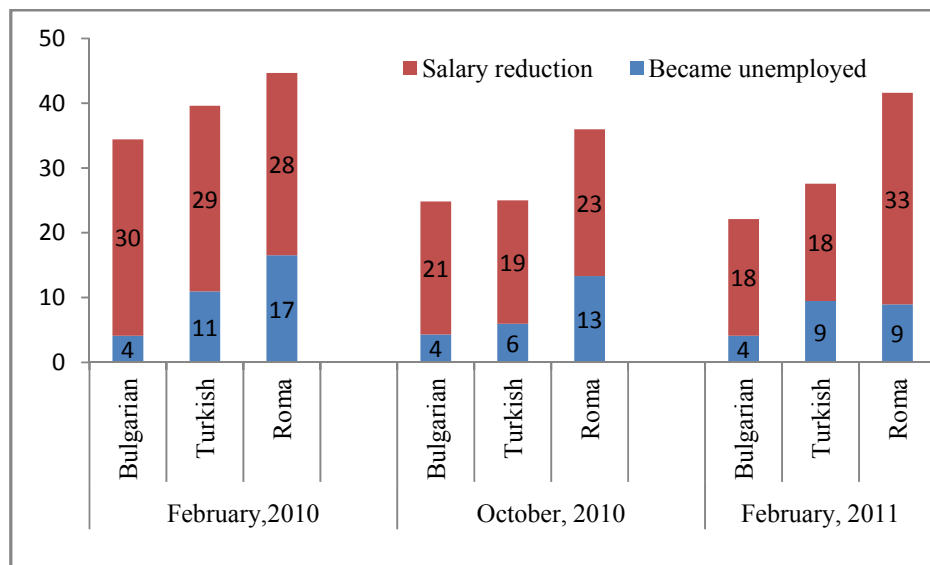


By Sector of employment



48. **The impact of the crisis was felt disproportionately by minority groups:** Roma and Turkish groups suffered disproportionately from deteriorating labor market conditions. About 45 percent of Roma and 40 percent of Turkish workers reported a layoff or reduced salary, relative to 34 percent of majority households. Not only were a higher proportion of ethnic minority workers affected by the crisis, but the effect was greater. Only 4 percent of workers belonging to majority group lost jobs in February 2010, compared to 17 percent of Roma and 11 percent of Turkish workers. Thus, Roma job losses were almost 4 times those of the majority group, and Turkish job losses almost 3 times as great.

Figure 2. 11: Percentage of workers affected, by ethnicity



49. **Salary reductions were experienced in roughly the same percentage across ethnic groups in February 2010.** Although the overall situation improved between February 2010 and February 2011, for Roma the improvement was only marginal. In February 2011, a smaller proportion of Roma reported losing jobs compared to a year earlier, but a marginally higher proportion of Roma workers reported reductions in salary.

3. HOUSEHOLD RESPONSES TO INCOME SHOCKS

50. *How did households mitigate the economic shocks during 2010? They relied on a portfolio of strategies rather than a single strategy to cope with the crisis. Households not only tried to increase the labor supply to augment their falling income but also resorted to cutting back on various expenditures.*

51. *Households responded to the economic contraction by reducing expenditures on necessities. 41 percent reported reducing use of basic utilities, 29 percent reduced consumption of staple foods, and 8 percent reported skipping meals (in February 2010). As in other Central and Eastern European countries, households suffering economic shocks significantly reduced their expenditures on health, including stopping the use of regular prescribed medications and skipping doctors' visits. Shock-affected households were more likely to stop paying social contributions and health insurance — increasing their vulnerability if exposed to additional shock (falling ill or becoming unemployed). Thus, households that suffer from labor market and income shocks during an economic crisis will suffer from persistently lower income and human development outcomes.*

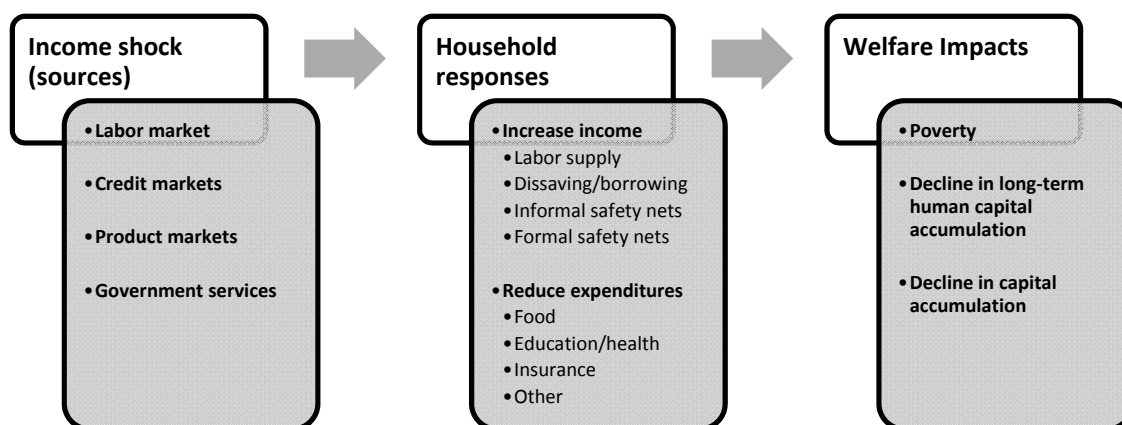
52. *Most households tried to cope with a reduction in income by sending non-working family members to look for work or by seeking additional part-time work—but only the better educated and richer individuals succeeded in finding additional work. Among poor households that were affected by shocks, 60 percent looked for additional work and failed to find any. Key social assistance programs (child allowances, heating allowances and the guaranteed minimum income program) helped mitigate the crisis—60 percent of the households from the poorest quintile who suffered an income shock received at least one benefit from the three programs mentioned above.*

53. **Individuals or households are not passive in face of income shocks.** Indeed, they quickly mobilize whatever resources are available to them to cope with the threats to income and consumption. The coping strategies can be primary means of mitigation in the absence of formal safety nets; however, these provide an additional cushion to absorb the impact of shocks even in the presence of wide safety-net programs. When households experience an income shock, they can respond in two ways: by increasing income and/or by reducing expenditures. Households may attempt to increase their income from a range of sources, including: i) working more, ii) adjusting their assets (primarily through drawing from savings or borrowing), and iii) relying on someone else's resources (through formal and informal safety nets). Most households will also seek to reduce their expenditures, including those that can have an important impact on basic welfare or mitigate household risk from additional shocks (i.e., insurance and some health expenditures).

54. Although both types of responses can affect the welfare of a household, **reductions in expenditures (on food, healthcare, education, etc.) are more likely to have a direct impact on basic welfare than increasing income from other sources.** During a systemic economic

crisis, however, many households that seek to increase income in response to a shock may find it difficult to do so, given that the pie is shrinking. Thus, most households are likely try to utilize both an increase in income and a reduction in expenditures as coping strategies to deal with an income shock. Any given household may be forced to rely on a different mix of responses in different periods after the shock as its pool of options changes.

Figure 3.1: Household responses to shocks and welfare impacts



55. Several key trends in household responses to shocks emerge from the Bulgaria CMS:

- Households relied on a portfolio of strategies rather than a single strategy to cope with the crisis.
- Some households adopted coping strategies even when they were not directly affected by the crisis; however, a larger proportion of crisis-affected households and poorer households adopted coping strategies relative to crisis-unaffected and non-poor households.
- The most common set of strategies adopted during the crisis involved reducing household expenditures. Surveyed households reduced expenditures on a broad range of goods and services during the crisis. Durable goods purchases and food expenditures were reduced. Alarming, food purchases were reduced by the poor, whose nutritional status was at risk to begin with.
- Increasing labor supply was one of the most important ways that households sought to cope with the crisis, despite the challenges of doing so in a weak labor market.
- Many households reduced expenditures on a broad range of services during the crisis. Reductions in food expenditures were driven more by poverty than a measured income shock, but crisis-affected households were more likely than other households to cut expenditures on health, education, and insurance.

- Households in the poorest quintile and those in vulnerable groups were less able to respond to the crisis by increasing their income, and thus tended to reduced expenditures on basic welfare goods.
- Formal safety nets did respond to the crisis in Bulgaria, and a relatively large percentage of households were able to access some form of social assistance.

56. **Adoption of a coping strategy to mitigate the impact of crisis is generally associated with households that are affected by an external adverse event.** However, during an economic slowdown households may consider different adjustments determined by observed and unobserved factors: income level being one of the important observed factors. For example, households' perceptions about the economic situation and the likelihood that they will be affected any time might induce them to adopt coping strategies and prepare themselves for any potential crisis-affect. This analysis relies, in part, on differentiating between households that adopted a specific coping strategy in response to a measured income shock from households that would have adopted that strategy anyway, without an income shock. Comparing households that experienced an income shock to households that were not affected will demonstrate the effect of the shock as the primary determinant of the change in the use of a coping strategy. At the same time, crisis response surveys do a particularly good job of capturing some types of income shocks (i.e. through the labor market), and are less able to capture other types of shocks (i.e. product markets). Thus, a "crisis-affected" variable will not fully capture which households were affected by the crisis, but it captures the majority of the most significant income shocks.¹⁸

3.1 Households reduced expenditures during the crisis

57. **Households reduced expenditure on food, clothing, utility and other non-essential durables.** About one third of households reported reducing food expenditures. This cut was reported more by crisis-affected households, with the exception of October 2010, when there was no difference between households reporting being affected versus those not affected by economic shocks. However, it seems that expenditure cuts were driven primarily by poverty rather than by measured income shocks. The percentage of households that reduced food expenditures is four times greater among those in the poorest quintile compared to those in the richest quintile. It can be difficult to determine the extent to which reductions in food expenditures affect human welfare, but in general, reductions in food expenditures can put the poorest households at risk. Sometime the reduction in food expenditure was achieved by skipping meals: around one-fifth of the households in the poorest quintile reported skipping meals because of reduced food expenditure (Figure 3.2).

58. **A marginally higher percentage of crisis-affected households reported skipping meals compared to households who were not affected.** Similarly, households tried to reduce expenditures by reducing their use of utilities: about 40 percent of the households reported reducing utility consumption. Again, reduced consumption of utilities is more associated with the economic status of households, rather than whether they were directly affected by the crisis.

¹⁸ Households may also reduce expenditures as the result of a loss in consumer confidence.

Figure 3.2: Households reduced food expenditure

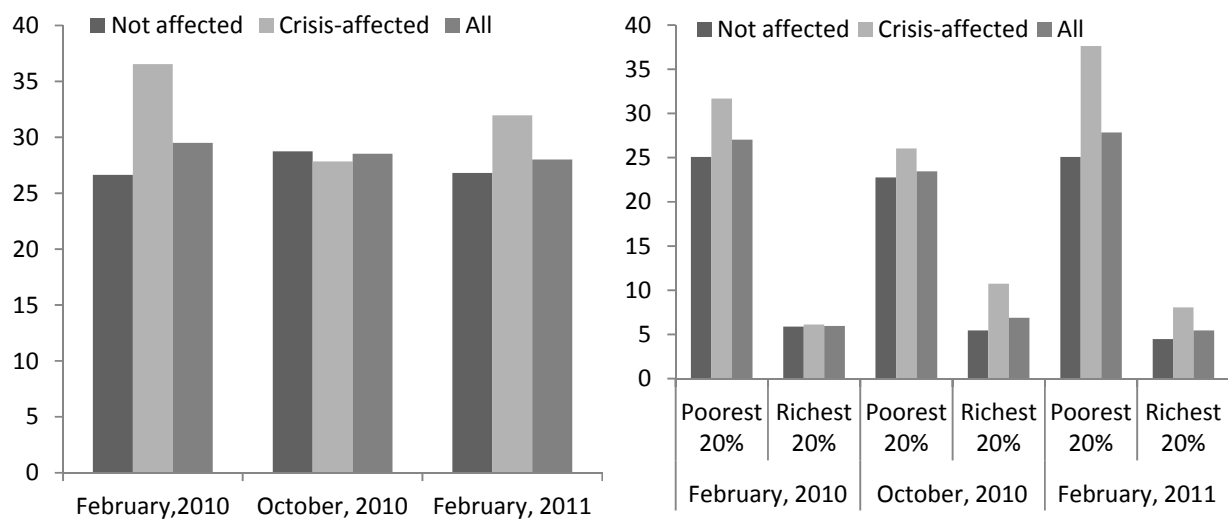
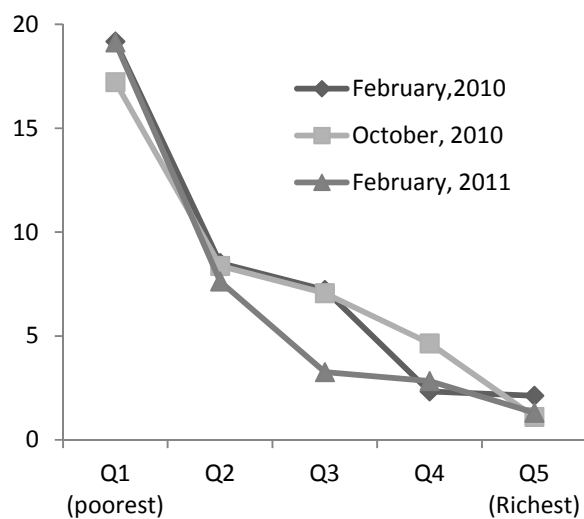
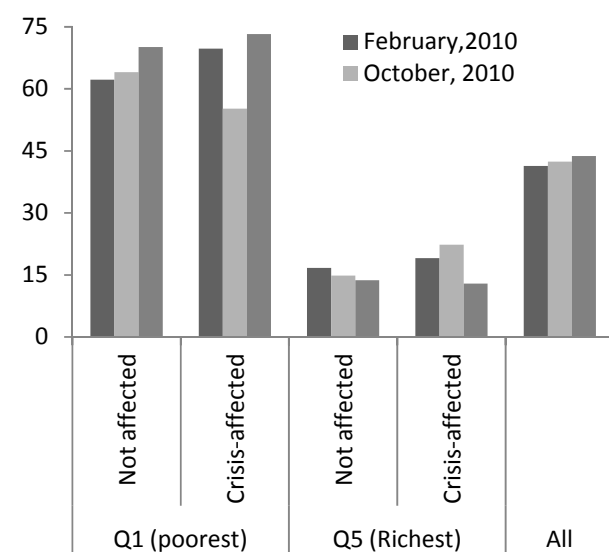


Figure 3.3: Percentage of households skipping meals and reducing utility consumption

Skipping meals



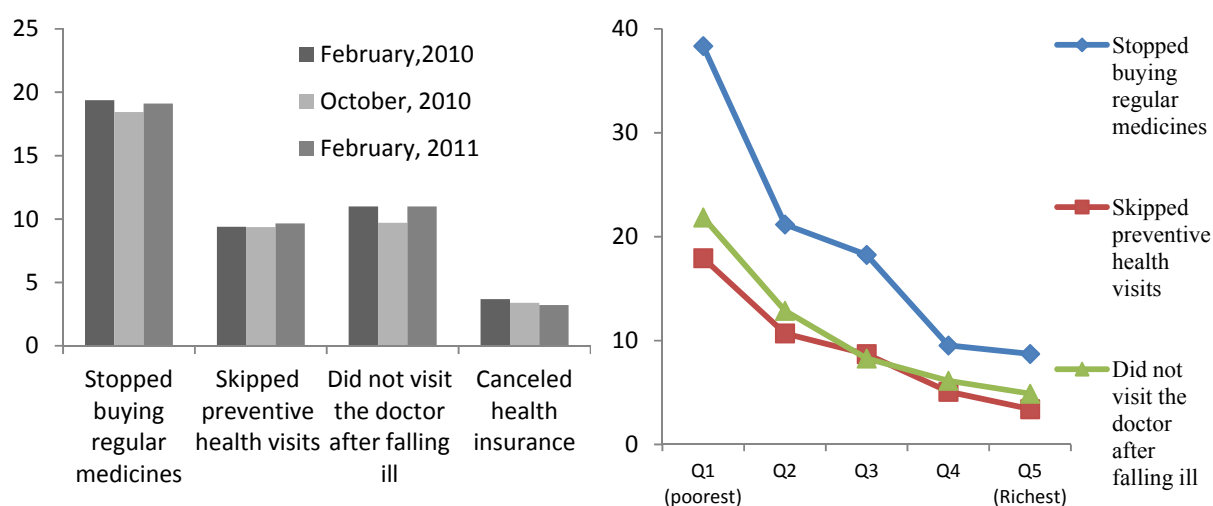
Reduced consumption of utility



59. **Two findings emerge from the pattern of expenditure reduction.** First, households reported reducing expenditures regardless of whether they were affected by the crisis, although households that experienced a measured income shock were more likely to reduce expenditures than those that did not experience such a shock. Second, a much higher percentage of poor households reported reducing expenditure irrespective of whether they were directly affected by the crisis. Households also reported cutting major non-essential expenditures (vacations, durables), which may not have much effect on their long-term welfare. More alarming is the fact that households also reduced in expenditures that potentially have adverse long-term impacts on basic welfare (e.g., health).

60. **Households reduced health investments and increased their long-term risks.** Households also reported that they stopped buying regular medicines, skipped preventive care visits, failed to see a doctor when ill, and cancelled their health insurance. About 20 percent of households stopped buying regular medicine: the incidence is marginally higher in crisis-affected households compared to those not affected. Importantly, almost 40 percent of households belonging to poorest quintile reported adopting this strategy, compared to only 9 percent of households in the richest quintile.¹⁹ A similar but less pronounced pattern is also observed in the adoption of the other two coping strategies: skipping preventive care visits and not seeing doctors when ill. However, the long-term impact on people who adopt such responses will vary widely; the effect of skipping preventive care visits may show up in years rather than months, while foregoing medical appointments could have immediate and devastating consequences for some people, but relatively little impact for most people.

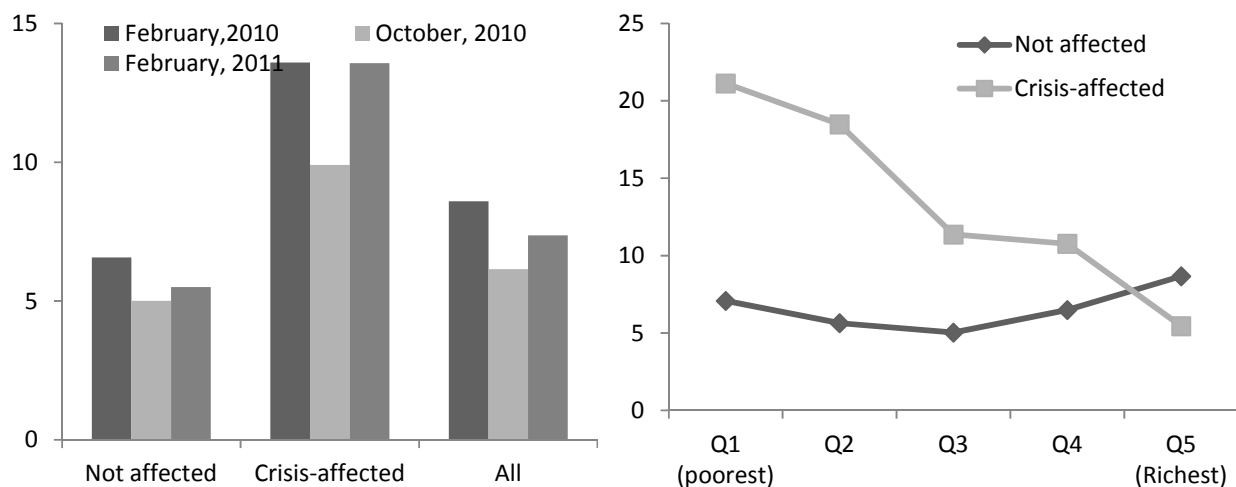
Figure 3.4: Households in Bulgaria reduced investments in health during a crisis



61. **Households have protected school enrollments of their children.** Very few households (about 1.5 percent) reported withdrawing children from school/college as a cost-cutting coping strategy. Thus, education attainment was not put at direct risk per se. The cost of sending children to school in Bulgaria tends to be low, and the opportunity cost of sending them to school also is likely to be low because child labor is not common. However, households reported reducing education expenditure on supplies and transportation and postponing or withdrawing from training courses. The reduction in education expenditure is reported by a much higher percentage of households that were crisis-affected and belong to the poorest quintile. By reducing education spending, these households may have increased their vulnerability to further shocks and potentially reduced long-term human capital accumulation—a particular concern for the already vulnerable because it could reduce lifetime earnings.

¹⁹ These figures are from February 2010 data and a similar pattern is observed in two other waves.

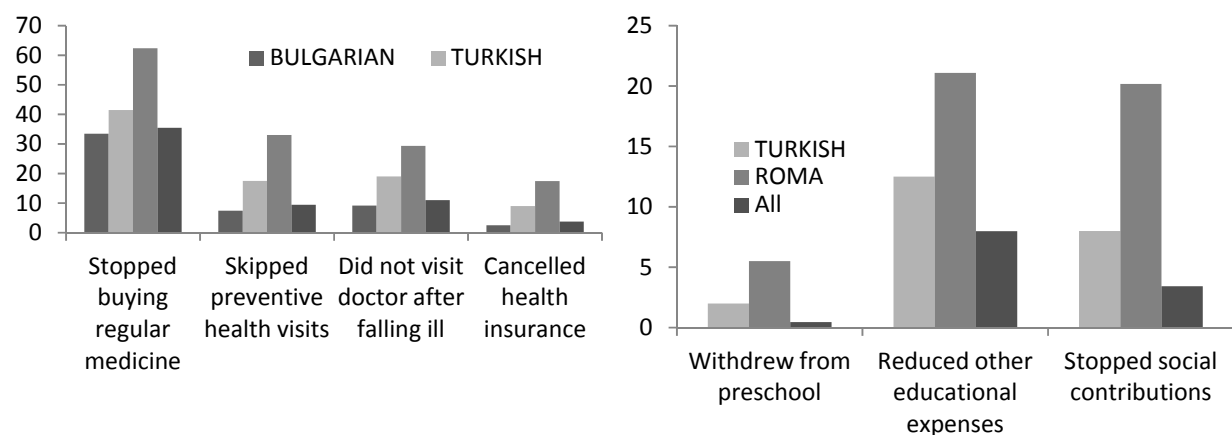
Figure 3.5: Percentage of households that reported reducing education expenditure



Note: Withdraw/postponed from training courses or reduced other type of education expenditure (supplies/transportation)

62. Poor and ethnic minority households reduced expenditures on basic welfare goods. Roma and Turkish minorities were more likely to adopt risky coping strategies during the crisis (Figure 3.6). In February 2010, 62 percent of Roma and 41 percent of Turkish households stopped regular purchases of medicine, but only 33 percent of majority households did the same. Similarly, 33 percent of Roma and 18 percent of Turkish households reported skipping preventative care visits, but among majority households, only 7 percent did. In response to illness, 29 percent of Roma households and 19 percent of Turkish households did not visit a doctor, but only 9 percent of majority households chose not to do so. Furthermore, 17 percent of Roma households canceled insurance, as did 9 percent of Turkish households, but among majority households, only 3 percent canceled insurance. Finally, Roma and Turkish minorities also withdrew their children from preschools, reduced other educational expenses, and stopped social contributions in much larger proportions than majority households.

Figure 3.6: Roma and Turkish minority households were more likely to reduce expenditures on basic welfare goods



63. **The expenditure reduction strategies adopted in Bulgaria are very much in line with the strategies adopted in other ECA countries that have implemented similar Crisis Response Surveys (CRS).** CRS in Armenia, Montenegro, and Romania show that households consistently reported reducing food and health expenditures (See Table 3.1). A higher percentage of crisis-affected households and poor households resorted to expenditure-reducing coping strategies. Controlling for a host of household characteristics, Azam (2010) finds that poor households were more likely than non-poor households to reduce health care consumption and reduce food expenditures (by reducing the quality or quantity of the food).

Table 3.1: Summary of health and education coping strategies adopted by households across countries with Crisis Monitoring Survey

	Armenia	Montenegro	Romania	Bulgaria
EDUCATION				
Withdrew children from school	No	No	N/A	No
Postponed or cancelled training	No	Yes	N/A	Yes
Cut education expenditure	N/A	No	N/A	Yes
Dropped extracurricular activities	N/A	N/A	Yes	N/A
Moved children from expensive to cheaper schools	N/A	No	N/A	N/A
HEALTH				
Reduced or cancelled doctors visits	Yes	No	No	No
Reduced or cancelled medical care	N/A	Yes	N/A	Yes
Reduced medicine purchases	Yes	No	No	N/A
Cancelled medical insurance	N/A	N/A	N/A	Yes

Source: Dasgupta (2010)

Note: 'No' or 'Yes' identifies whether there is any significant difference between treatment and control group

3.2 Households sought to cope by increasing income

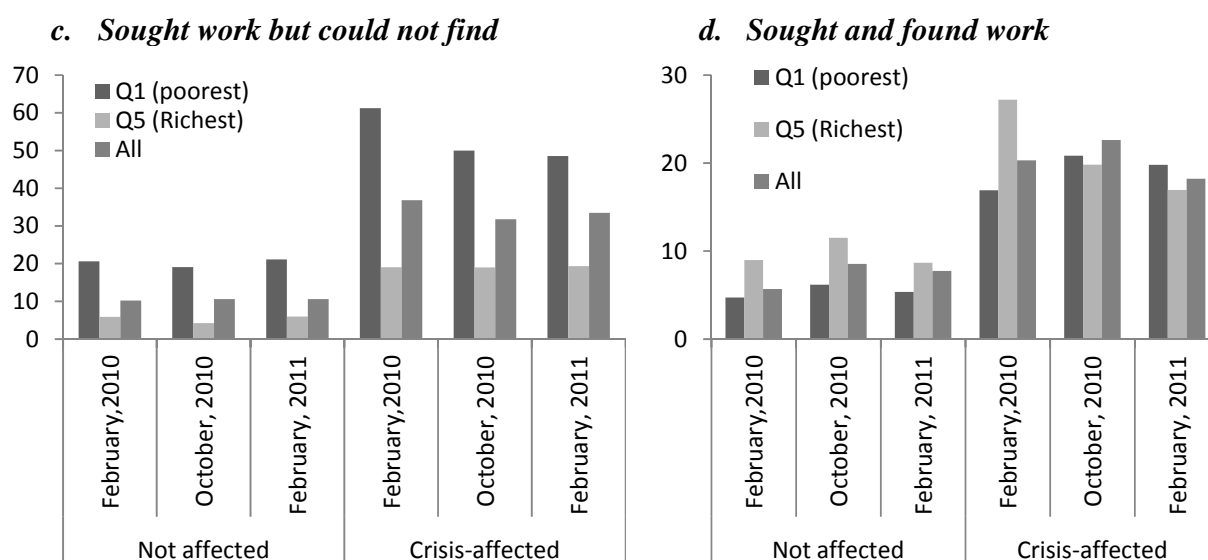
64. **Households affected by the crisis were significantly more likely to take steps to increase the amount of disposable income available to the family.** The most common way to try to increase disposable income was by working more. This was followed by tapping into informal transfers (remittances, charitable donations, and so on). Households then tried to access savings or increase borrowing.

65. **Many households tried to increase income by sending non-working family members to find work, and/or having those who were employed find additional work (especially if they had experienced a reduction in hours at their main job).** *However, seeking additional work did not necessarily translate into effective increased earnings.* For example, in February 2010, about 57 percent of crisis-affected households tried to increase earnings through the steps mentioned above, but only 20 percent were successful in finding work. The rest, 37 percent,

looked for but did not find any work.²⁰ There was a large difference between crisis-affected and unaffected households, as far as seeking additional work was concerned. Further, seeking additional work was a more successful strategy for rich households than poorer ones. Seventy-eight percent of poor crisis-affected households sought additional work, but only 17 percent of them were successful.²¹ In contrast, 46 percent of crisis-affected households in the richest quintile sought additional work, and 27 percent found it (i.e., more than half were successful in finding additional work).

66. **Difference in education and social networks may be one reason for the different success rates.** Nonetheless, is harder for poor people to augment their falling incomes successfully by finding additional work, and therefore they must resort to other measures of income support or expenditure reductions. In addition to seeking work, about 4 percent of households also reported increasing agriculture production for sale and/or self-consumption. This might have been achieved through increasing efforts at farms.

Figure 3.7: Household tried to increase labor supply by seeking additional work



67. **Dis-saving and borrowing:** There is relatively little data on household-level borrowing and saving behavior in the ECA region, but the data that has been collected suggests that few households could rely on savings. Only 23 percent of all households had savings as of February 2010, a figure which dropped to 20 percent in February 2011. Moreover, only around 6 to 7 percent of the poorest households had savings. So in the case of any income shock, the capacity to smooth the shock by drawing upon saving is very limited for poorest households; a much higher percentages of richer households have the option of drawing upon

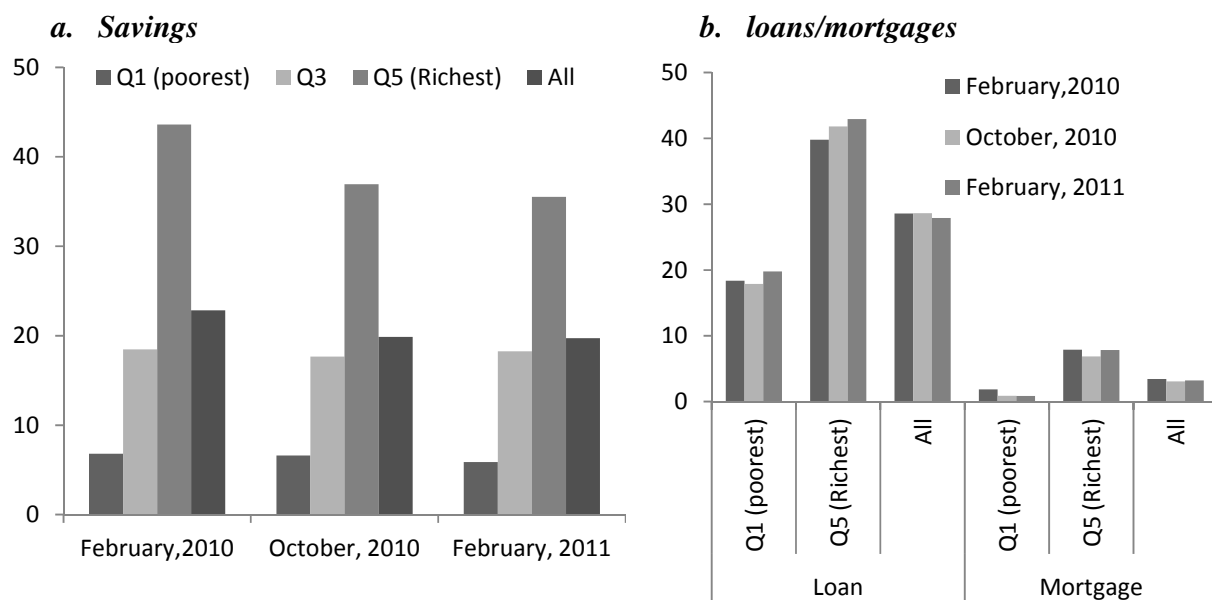
²⁰ 57 percent is derived by adding the vertical bars of Figure 3.7a and 3.7b for crisis-affected households (all).

²¹ Again, vertical bars on Figures 3.7a and 3.7b are added to show the percentage of poor crisis-affected who sought work.

savings in the case of adverse shocks. The percentage of households with savings declined—specifically in the richest quintile— between February 2010 and 2011, suggesting that richer households may have indeed used dis-savings as an adjustment mechanisms during the crisis.

68. **Few households reported mortgages** (about 4 percent), which reduces the psychological/financial risk in the time of crisis. Having a mortgage increase the financial burden during a period of income shock, and the burden is exacerbated by the psychological cost of losing or fearing to lose the house, as evidenced in developed countries during the recent crisis. The consumer debt level also does not seem very high in Bulgaria, with only one (two) fifth in the poorest (richest) quintile reporting some kind of loan. Hence, access to credit in the short term can have a positive impact on households, since it allows them to better allocate resources across different times and protect their essential expenditures.

Figure 3.8: Percentage of households reporting

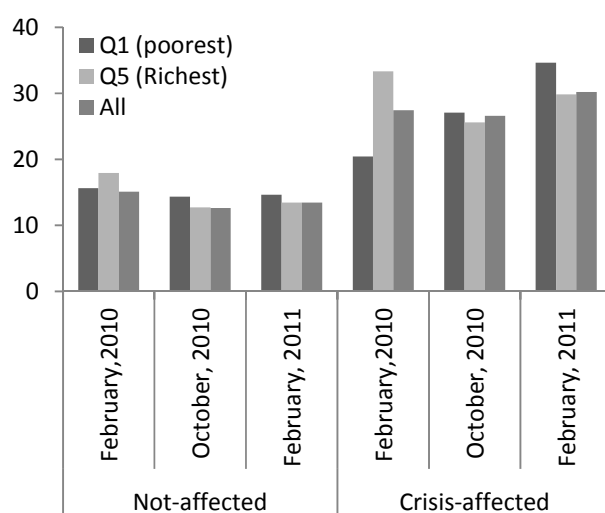


Informal safety nets

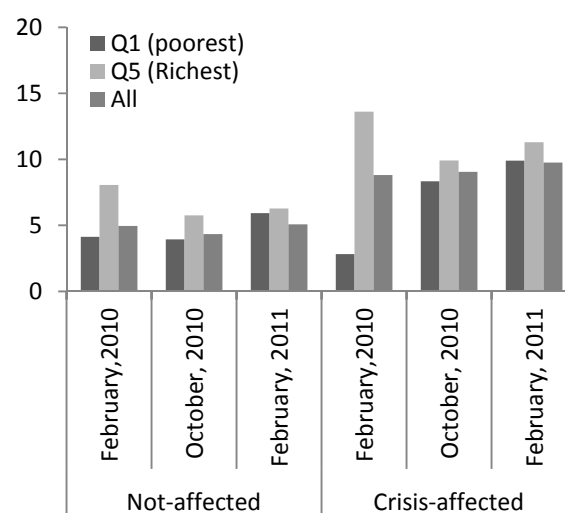
69. **Informal transfers**—such as remittances from relatives within the same country or from abroad and informal loans (interest free) from relatives/friends—can also be used to **smooth consumption during a shock**. However, informal transfers (remittances) can also be a transmission channel of crisis if they constitute a part of household regular income. In February 2010 about 18 percent of the households reported receiving informal transfers (13 percent from internal relatives and 6 percent from abroad) and 6 percent of the households reported getting interest free loans from relatives or friends. The share of households receiving informal transfers was relatively stable during 2010—early 2011.

Figure 3.9: Percentage of households reporting

Received informal transfer



Received informal (interest free) loan



70. Until now, we have described how households adjusted their expenditures and labor supply to mitigate the impact of the crisis. Another important way to reduce risk in a financial crisis is through the formal safety net provided by the government. In the end, it is the interaction of both that decides the actual impact of the crisis on the household welfare.

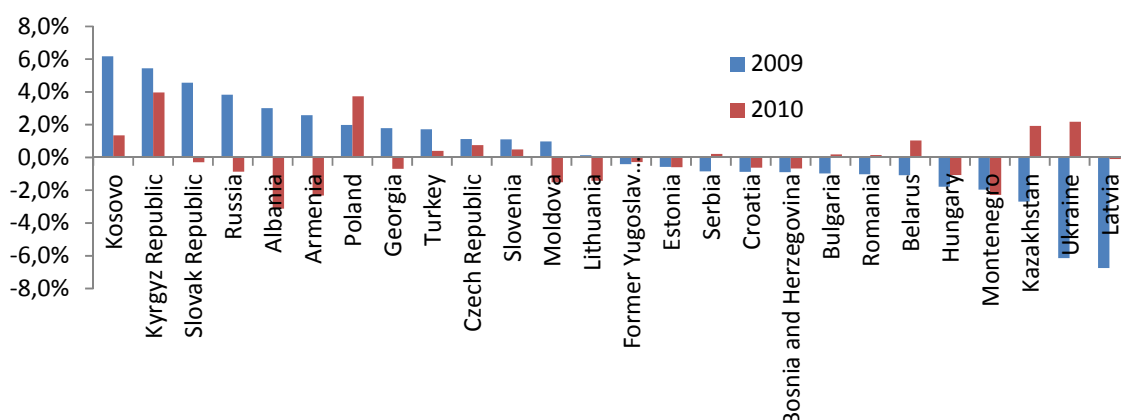
4. THE POLICY RESPONSE TO THE ECONOMIC CRISIS

71. Substantial fiscal consolidation was needed in 2009 to contain the budget deficit. Growth projections for the 2009 budget had been unduly optimistic, envisaging strong revenue growth of about 18% over 2008. Instead, revenues fell by about 9%, leading to a revenue shortfall of almost 11 percent of GDP. To maintain an almost balanced budget for 2009 amid severe revenue losses, the Government reduced expenditures selectively in sectors as defense, general administration, health or support for economic activities, but expanded social protection spending, especially on pensions.

72. The key mitigating factor in the loss of earnings in 2009 was a counter-cyclical, expansionary social protection policy in 2009. The government was able to keep average household income constant in 2009 by strongly expanding its social protection policy which compensated for the reduction in earnings in many households, together with the adjustment mechanisms pursued by households. Social protection transfers rose from a quarter of the average household's income in 2008 to a third in 2009. While wages lost some of their purchasing power in 2010 compared to 2009, an increase in social protection spending helped mitigate larger income losses.

73. **From a regional perspective, overall public spending was not particularly dynamic in Bulgaria in 2009 and 2010.** Expressed in comparison to the pre-crisis level in 2008, total government expenditure was reduced about 1.0 percent in 2009 and grew only about 0.2 percent in 2010. Other economies that experienced a similar decline in GDP, like Slovenia or Armenia, increased their overall public spending in 2009 and 2010.

Figure 4.1: Evolution of total real government expenditure as percent of 2008 GDP



Source: IMF, WEO April 2011 and authors' calculations.

74. **Substantial fiscal consolidation was needed in 2009 to contain the budget deficit (World Bank, 2010).** Growth projections for the 2009 budget had been unduly optimistic, envisaging strong revenue growth of about 18% over 2008. Instead, revenues fell by about 9%, leading to a revenue shortfall of almost 11 percent of GDP. At the same time planned spending went forward, including increases in pensions in January and July 2009, which significantly strained the budget. After the parliamentary elections, fiscal consolidation helped keep the deficit low despite rapid worsening of revenues. The consolidation included measures to (i) a 15 percent cut of non-interest spending; (ii) prioritize capital projects by reviewing large projects underway to identify savings and address any governance issues; (iii) optimize public administration structures and staff, including closing of two ministries and consolidation of some agencies; and (iv) intensify the fight against tax fraud and avoidance. The 2009 budget ended in a small deficit of 0.9 percent of GDP on a cash basis, compared to a 2.9 percent surplus in 2008.

75. **To finance the mitigation of the crisis in a tight fiscal environment, the government sharply reduced public spending in economic activity, defense and security, health, general administration and culture** (see Table 4.1.). Education expenditure was protected in 2009, while social protection expenditure increased respectively by 12.7 percent and 9 percent. This consolidation strategy has allowed for mitigation of the crisis while containing the public deficit. Although relevant in the short-run, a sustained reduction of health and economic expenditure may jeopardize growth in the long run.

Table 4.1: Evolution of public spending by function.

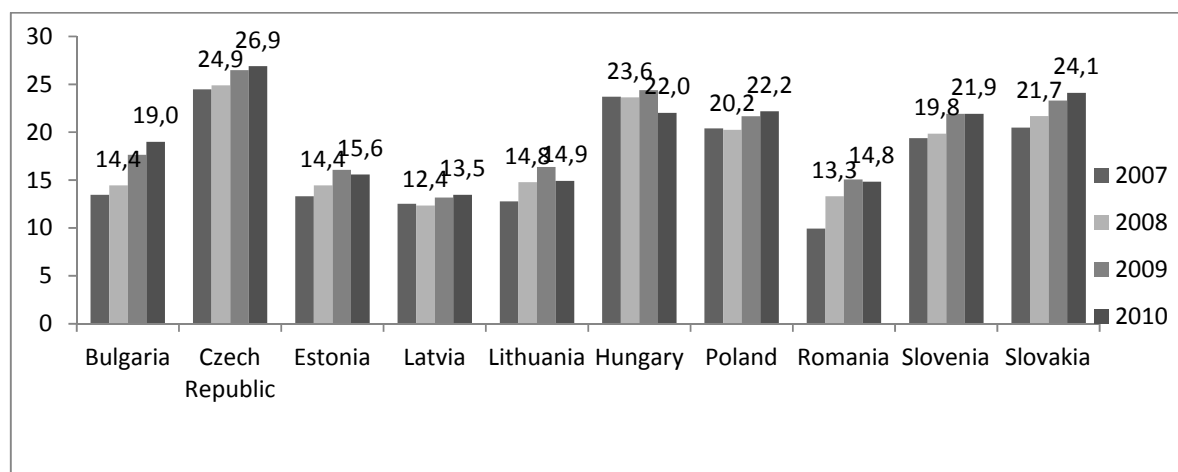
	2008	2009	2010	2008	2009	2010	2008	2009	2010
	Million Levs			% of GDP			Change yoy, real prices		
Revenues and Grants	27313	25041	23932	39.4	36.7	34.0	1.00	0.89	0.83
Expenditures	25323	25667	26755	36.5	37.6	38.0	1.00	0.99	1.00
I. General Public Services	1996	1952	1668	2.9	2.9	2.4	1.00	0.95	0.79
II. Defense and Security	3228	3001	3222	4.7	4.4	4.6	1.00	0.90	0.95
III. Education	2768	2838	2678	4.0	4.2	3.8	1.00	1.00	0.92
IV. Healthcare	2831	2634	3000	4.1	3.9	4.3	1.00	0.91	1.01
V. Social security, social support and caretaking	7880	9105	9592	11.4	13.3	13.6	1.00	1.12	1.16
VI. Construction, public works, utilities and environment	1509	1687	1534	2.2	2.5	2.2	1.00	1.09	0.97
VII. Recreation, resorts, culture and religious activities	602	538	499	0.9	0.8	0.7	1.00	0.87	0.79
VIII. Economic activities and services	3204	2646	3403	4.6	3.9	4.8	1.00	0.80	1.01
IX. Expenditures not classified in the other activities	1305	1267	1155	1.9	1.9	1.6	1.00	0.94	0.84
Budget Balances: Deficit (-)/Surplus (+)	1989.9	-626.1	-2822.7	2.9	-0.9	-4.0	1.00	-0.31	-1.35
Pro Memoria									
Pensions	5606	6493	7036	8.1	9.5	10.0	1.00	1.13	1.19
GDP	69295	68322	70474	100.0	100.0	100.0	1.00	0.96	0.99
CPI		1.028	1.053						
GDP Deflator		1.043	1.059						

Source: Ministry of Finance; GDP data is from BNB

76. **Despite the significant fiscal consolidation that has taken place in 2009, social protection spending was actually increased.** By far, the largest increase went for pensions. This measure, motivated in part by the election cycle, injected additional transfer income into the budgets of a large number of households with elderly (which represent slightly more than half of the population, see Figure 2.4). Social protection spending was the main policy tool used by the government to stop a decline in living standards and compensate for poor labor market conditions.

77. **From a regional perspective, although social protection transfers grew in all the new member countries in 2009, the increased level of support was sustained in only half of them in 2010, including Bulgaria.** In fact, compared to the pre-crisis level (2008), Bulgaria is the country where social protection transfers increased most among the new EU members: about 4.1 percent of 2008 GDP (see Figure 4.2).

Figure 4.2: Total social protection transfers as percent of 2008 GDP



Source: Eurostat, quarterly data have been averaged from the fourth quarter of the preceding year to the third quarter of the year for availability reasons.

4.1 The Social Protection Response

78. **The impact of the crisis on employment and poverty would have been bigger in Bulgaria had the government not intervened.** Using a different poverty methodology and a different survey than the ones used for this report, World Bank simulations suggest that the recent poverty reduction trend could have been reversed by the economic crisis (assuming all other policies would have stayed constant). According to the World Bank (2010), the absolute poverty rate anchored into a specific caloric requirement would have increased from 10.2 percent in 2007 to about 12 percent in 2009.

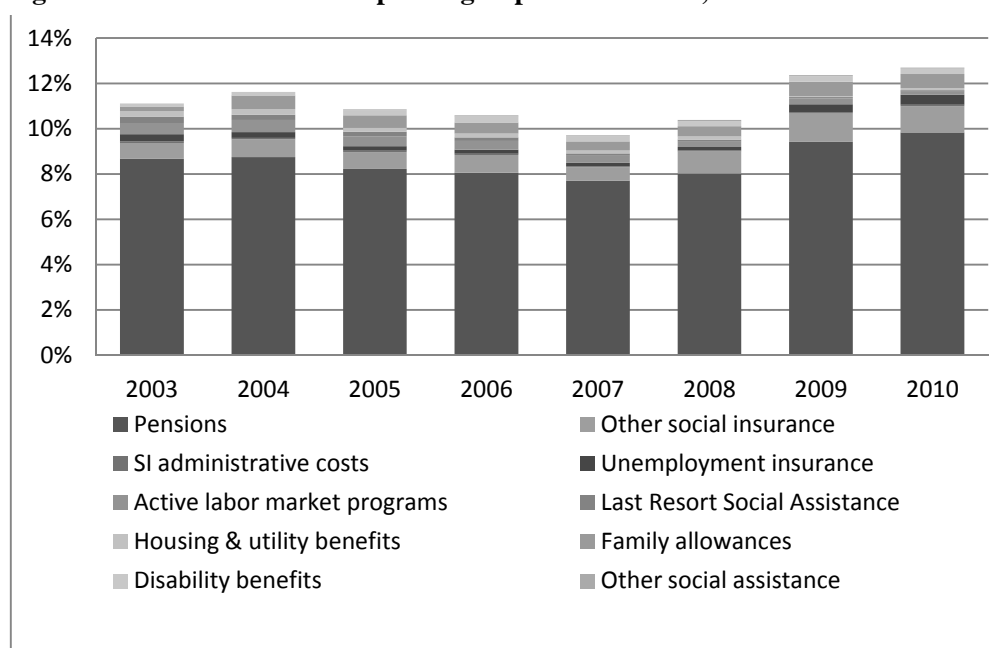
79. **The key policy that mitigated the impact of the crisis on household welfare during 2009-2010 was social protection.** This response was possible because Bulgaria has a diversified social protection system that includes both contributory (social insurance) and non-contributory (social assistance) programs (see Table 4.3).

80. **Contributory social insurance benefits** include pensions, unemployment benefits, and short-term insurance-based benefits in case of temporary incapacity to work. These are conditional on formal employment and payment of social insurance contributions. Contributions are made, as in the other EU member states, by employers, employees, and the state. Apart from the contributory pensions, the pension system allows the provision of several types of “no work-related pensions” such as survivor’s pensions, civil and military disability pension, old age social pension, pension for special merits, social disability pension, and personal pension.

81. **Social assistance programs**, on the other hand, are non-contributory in nature. The non-contributory safety net programs consist of two main anti-poverty schemes for low-income and vulnerable households: Monthly Benefits for Individuals and Families (based on a guaranteed minimum income threshold) and Heating Allowance (HA). There are noncontributory support programs which are categorical in nature, including child protection benefits through Monthly Benefits for Families with Children (MBFC), maternity leave, birth grants for uninsured households and other related support schemes under the Law on Family Support for Children; and benefits for people with disability through Monthly Supplement for Social Integration (MSSI), which is a supplement to disability pensions²². The social assistance system also provides social care services in institutions, communities and for families.

82. **The MBIF and HA are means-tested on income (and on assets) and are targeted to the most vulnerable families.** The MBFC program under the Law on Family Support for Children uses a combination of categorical targeting approach and a means test with a higher threshold for selecting beneficiaries. The MSSI provides a monthly income supplement for people with disabilities and supports their social integration. The mix of non-contributory social support programs in Bulgaria is similar to that of OECD and EU countries, with an emphasis on family allowances (child allowances, birth grants, etc.), social pensions, heating and housing allowances, and targeted anti-poverty “last-resort” programs.

Figure 4.3: Social Protection Spending as percent of GDP, 2003 - 2010



Source: Ministry of Labor and Social Policy

83. **The majority of the social protection spending finances pensions (Table 2.18).** According to the CMS, in February 2011, pensions accounted for 79 percent of total SP spending (captured by the survey); social assistance programs represented another 18 percent; and the unemployment benefits²³ another 3 percent. Among pension, old-age pensions represent the

²² This program also offers benefits that could be received separately, for example for a disabled child, who does not receive disability pension.

²³ The CMS does not capture all the spending on social protection programs. For example, it misses Active Labor Market Programs, a heterogeneous category of similar magnitude as the spending for unemployment benefits. And the CMS captures only the transfers received by households, net of any administrative cost.

largest category (estimated from CMS to account 68 percent of reported SP expenditure). From the perspective of the beneficiary households, the largest per capita transfers are old-age pensions (about 150 Lev per capita per month); heating allowances (during the cold season); maternity benefits, disability pensions and unemployment benefits (between 55–65 Lev/capita/month). Remittances from abroad are also an important source of (non-social protection incomes) for the households that receive them (about 53 Lev/month/capita). A number of social protection programs have smaller per capita benefits: the monthly child allowance (MBFC), the disability allowance (MSSI) and the MBIF program (between 13–26 Lev/capita/month).

4.2 Measures taken by the government to support households during the crisis

84. **Since the beginning of the recession, successive Bulgarian governments have used the social protection system as their main policy tool to arrest the decline in living standards, protect the poorest and most vulnerable population groups, and preserve jobs.** This section reviews the main measures taken to protect the households from the effect of the crisis. The Household Budget Survey data reported in Table 4.1 indicate that the drop in earnings during 2009 was mitigated in its entirety by a strong counter-cyclical social protection policy. The same story emerges from the monitoring of high-frequency data on spending and beneficiaries for a number of social protection programs, reported in Box 4.1 below.

85. **In January 2009, the Government expanded the access and generosity of its social assistance system by increasing the eligibility threshold and the benefit level for a number of social assistance programs, and the minimum level social insurance benefits.** Many social minimums were increased by 10 percent to 40 percent (see Table 4.2), substantially above the rate of inflation of about 8 percent²⁴.

Table 4.2: Increase in the generosity of social protection transfers during 2009

Income/Payment	Increase	As of (date)
Minimum wage	9.1 %	1.01.2009
Monthly Benefits for Individuals and Families Guaranteed minimum income	18.2 %	1.01.2009
Monthly allowances for taking care of a child	40.0 %	1.01.2009
Monthly income threshold for determining the right to family benefits	16.7 %	1.01.2009
Minimum and maximum amount of the unemployment benefit	20.0 %	1.01.2009
Parental benefit for taking care of a small child up to 2 years of age	9.1 %	1.01.2009
Pensions:		
• Minimum contributory pensions	19.9 %	1.01.2009 (10.0 %) 1.07.2009 (9.0 %)
• Non-contributory pensions	19.9 %	1.01.2009 (10.0 %) 1.07.2009 (9.0 %)
• Contributory pensions (excluding minimum amounts)	19.9 %	1.04.2009 (approx. 10.0 %) 1.07.2009 (9.0 %)

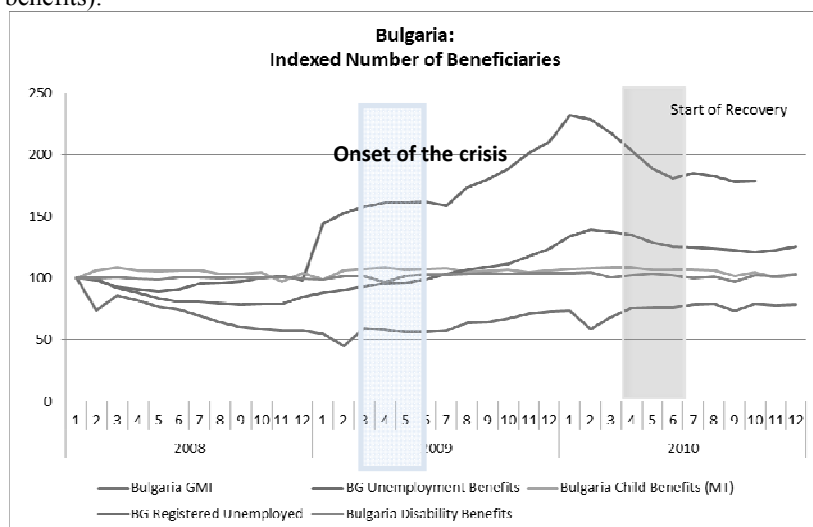
Source: The response of the Bulgarian Government to the EU Questionnaire on the Social Impact of the Crisis, Sep'09

²⁴ The CPI inflation rate from July 2008 to July 2009 was 8 percent.

86. **The increase in the income thresholds for means-tested programs gave an additional boost to these programs that act as automatic fiscal stabilizers;** however, as these programs represented a small share of social protection spending at the outset of the crisis, their counter-cyclical effect was limited (see Box 4.1).

Box 4.1: Strong crisis-related growth in unemployment benefits with low expansion of the Guaranteed

The results presented in this box summarize the analysis of Dikmelik (2011) based on monitoring administrative data on number of beneficiaries for key social protection programs (automatic stabilizers, like the unemployment benefit program and means-tested social assistance programs). Figure 2B tracks the evolution of the number of beneficiaries for the UB program, as well as three income-tested programs (the MBIF, child benefits, and disability benefits).



Source: SBO, Bulgaria Statistics Office

Similar to some other countries (i.e. Armenia, Romania, Montenegro), the expansion in unemployment benefits in Bulgaria is larger than the corresponding increase in the number of registered unemployed (Figure 2B). While the labor market impacts were quite severe in Bulgaria, with an increase of around 50 percent in registered unemployed in 2009 (compared to pre-crisis 2008 levels), the coverage of unemployment benefits more than doubled during the same period. The expansion in UB appears to be sustained, which is not surprising especially in light of the continued high levels of unemployment through 2010

On the other hand, there was a slight expansion in the Monthly Benefits for Individuals and Families (MBIF) Program, reversing its long decline. As in Romania, Croatia, and Ukraine, the number of beneficiaries of the MBIF program has been declining over time since 2005, and the decline accelerated between 2007 and 2008 with the introduction of the “18 month rule”. The “18-month rule” has been enforced since January 1, 2008, and the duration of MBIF receipt was further reduced to 12 months as of July 1, 2008. According to the Social Assistance Agency, the measure has resulted in a reduction of 19,688 able-bodied working age MBIF beneficiaries since its introduction, which is approximately 58 percent of the total reduction for 2008. However, this decline started to reverse in the second quarter of 2009, only a few months after the effects of the crisis began to be felt. Furthermore, the number of beneficiaries continued to increase throughout 2009 and into 2010, with the number of beneficiaries surpassing 2008 figures in August 2009. As there were no major changes to the parameters of the program that could spur this expansion during this time, the expansion is likely a response to the crisis.

Only a slight positive response is observed in Bulgaria means-tested child allowances, with categorical disability benefits exhibiting a similar expansion (Figure 2B). The slight expansion in means-tested child allowances reflect the effects of the increase in the eligibility threshold in early 2008 (which has not been revised since then) combined with the urgency the crisis may have brought to some who lagged in applying to the program. There were no changes to the disability program during this time, which has experienced a slight expansion (of about 4 percent) compared to pre-crisis levels.

Source: Aylin Dykmelik, *Response of Social Benefits in ECA to Recent Crisis*, forthcoming 2011

Minimum Income Program

87. **In September 2009, the government adopted another set of measures focused on protecting jobs,** as part of a broader package of measures to respond to the crisis. These aimed to shore up the domestic financial system and preserve macroeconomic stability, improve the business environment, and implement high-priority infrastructure projects. The government has used active labor market programs that focused on both those under 30 years old as well as those older than 50 years of age. These programs supported schemes for part-time employment²⁵ and other measures encouraging employers to hire unemployed workers, and intensified labor market mediation (e.g. efforts to improve information available about vacant jobs). According to expert estimates, had these various labor market measures not been implemented by the government in 2009, the unemployment rate in the country would have been 1.4 percentage points higher.²⁶ The government has also implemented several new measures to alleviate the negative consequences of the crisis, particularly on vulnerable groups. These include vouchers for training, provision of free travel cards for work for those living in deprived areas with low labor demand, special education schemes to better integrate children with special needs and those from ethnic minority groups, as well as special programs providing social services to facilitate better public reintegration of people in specialized institutions.

88. **Additional anti-crisis measures aimed to support employment have been implemented during 2010 and 2011.** For those laid off during the crisis, the “New Employment Possibility” National Program offered a package of services, including orientation, consultations and referrals to vacancies, training or subsidized employment, for a period of up to six months. By November 2011, the program served about 2.2 thousand persons. The public works program “For Social Assistance to Employment” received 10 million BGN in 2010 and financed about 9 thousand job vacancies in municipalities with high unemployment or social problems. Starting 2010, to facilitate the access to training for both employed and unemployed, a voucher training program was implemented. By December 2010, the program served 18,510 persons; by December 2011, the number of beneficiaries went up to 70,750 persons. To improve the adequacy of unemployment benefits, a cap that limited its maximum nominal value was eliminated in 2010.

89. **The counter-cyclical social protection policy has resulted in widening the deficits of social insurance schemes.** Because of the fall in the number of insured persons, limited increases in earnings and insurance incomes, and an increased number of people on social security benefits, the ongoing crisis has adversely affected the financial stability of social security schemes because of the concomitant fall in revenues from social insurance contributions and increased expenditures. The unemployment protection scheme has been the most severely hit, with expenditures on unemployment benefits in June 2009 more than double prevailing

²⁵ To encourage employers to preserve employment levels amid falling aggregate demand, the Government implemented a partial-employment subsidy program during 2009 and 2010. The program, targeted to employees working in industry or services who transitioned to part-time working hours, provided benefits that topped up the wages of about 20 thousand persons in 2009 and another 6.2 thousand in 2010. In 2011, this measure was replaced by the “Adaptability Program”, who offered five months of vocational training and scholarships to the employees who have transitioned to part-time employment in earlier years.

²⁶ Revised questionnaire on the Social Impact of the Crisis Response to EC Social Protection Committee.

levels one year earlier. Maintaining the sustainability of the social protections schemes remains one of the main challenges facing the government.

The distributional impact of social protection programs during 2010

90. In this last part of the chapter, we use the CMS to look at the dynamics of social protection support over Feb 2010 to Feb 2011, as well as at its distributional impact. We also examine the role and distributional impact of private transfers.

91. **In February 2011, pension spending continued to increase, while labor market, social assistance programs and remittances registered significant declines (Table 4.3).** Households reported a 4.4 percent increase in social protection receipts in February 2011 compared to a year ago. This increase is due to pension spending, which reportedly increased by 8.3 percent. Other categories of social protection programs, such as unemployment benefits or social assistance, have registered significant reductions of 13.6 percent and 6.9 percent, respectively. The volume of remittances was down by 40 percent, due to a reduction in the number of households receiving this type of private transfer. This change in the composition of social protection spending in 2011 is not pro-poor, as a larger share of spending goes to categories of people at low risk of poverty (such as pensioners), while less is flowing toward the unemployed or beneficiaries of social assistance programs.

Table 4.3: Average Per Capita Transfer of Social Protection programs, Feb-11 and Feb-10

	Average Transfer Value, Lev Per Capita Per Month*			Average Transfer Value, Lev Per Capita, Beneficiary Households Of Indicated Transfer Only**		
	Feb-11	Feb-10	% Change 2011/10	Feb-11	Feb-10	% Change 2011/10
All social protection	87.5	83.8	4.4	117.2	115.8	1.2
All social insurance	68.8	63.6	8.3	141.8	133.0	6.6
Old age pension	59.7	55.3	8.0	147.5	137.8	7.0
Disability pension	7.0	6.5	8.0	60.0	55.2	8.7
Survivor pension	2.1	1.8	18.7	43.5	37.3	16.5
All labor market programs	2.3	2.6	-13.6	57.7	51.6	11.9
Unemployment benefit	2.3	2.6	-13.6	57.7	51.6	11.9
All social assistance	16.3	17.5	-6.9	41.4	45.6	-9.2
Disability benefit (MSSI)	0.6	0.5	15.8	26.6	37.4	-28.9
Scholarship	0.5	0.8	-46.2	23.6	30.6	-22.8
Maternity leave for new child	2.8	3.1	-10.6	67.9	66.9	1.5
Other individual level SA	3.5	3.6	-3.3	62.4	84.1	-25.8
Monthly child benefit (MBFC)	4.2	3.9	6.5	13.2	12.9	2.1
Infant benefits	1.1	1.0	3.2	40.8	44.6	-8.4
Monthly Benefits for Individuals and Families (MBIF)	0.4	0.8	-46.7	26.5	55.8	-52.5
Heating allowance (HA)	3.4	3.8	-9.3	90.1	91.0	-1.0
All remittances	2.0	3.4	-40.5	53.2	53.1	0.2
Transfer from relatives living abroad	2.0	3.4	-40.5	53.2	53.1	0.2

Notes:

*) The average per capita transfer value is obtained by dividing the extrapolated spending on each SP benefit by the population of Bulgaria (the denominator does include households that did not receive the transfer. This indicator is a direct proxy of the relative magnitude of different SP transfer in a given period (month), as well as of changes in the overall spending from a period to another (from Feb-10 to Feb-11)

**) The average per capita transfer value for beneficiary households only is obtained by dividing extrapolated spending on each SP program by all those living in households that receive the transfer (it includes all household members in a beneficiary household, irrespective whether some of them are direct beneficiaries or not). The indicator is a direct proxy of changes in the benefit level for recipient households.

92. The CMS was used to investigate whether or not the distributional impact of social protection (SP) programs deteriorated during the crisis. To assess the distributional impact of SP programs, three indicators commonly used for social protection programs were estimated: (i) program coverage, which measures the fraction of the population receiving a type of SP programs; (i) targeting accuracy, which measures the share of benefits received by each income quintile; and (iii) the generosity of a program, which measures the average contribution of an SP transfer to the income of beneficiary households. Households are ranked into quintiles based on the income of the household net of SP benefits (or, respectively, private transfers).²⁷

93. The recent CMS data confirms that Bulgaria's SP system has high population coverage (70 percent of the population is reached directly or indirectly, as members of a recipient household), and almost entirely covers the poorest quintile of (pre-SP transfer) poor; all households in this quintile have received at least a pension, unemployment benefit or social assistance transfer. About half of the population lives in households that receive at least one pension; 4 percent reside in households receiving unemployment benefits; and 39.5 percent live in households receiving social assistance transfers. In terms of coverage, social assistance includes a number of smaller programs (covering between 1.6-5.6 percent of the population), and one program with large coverage (the monthly child benefit, with a coverage of 31.6 percent in February 2011).

94. How did SP program coverage change during 2010 and early 2011? Over the implementation of the CMS, the coverage of social assistance programs has increased (as the income of certain households deteriorated and they become eligible for income-tested benefits; and, in the case of the Monthly Benefits for Individuals and Families program, the 12-months time limit has been repealed on January 2011), while that of unemployment benefits decreased (as fewer formal employees were eligible for unemployment), while pension coverage remained almost the same (Table 3.4). The coverage with social assistance transfers of the poorest quintile increased by 6 percent, from 60 percent to 66 percent, during the CMS period. Fewer households reported remittances from abroad in February 2011 than a year ago (as little as 5.9 percent of the survey population); the reduction was less pronounced among households from the poorest quintile, where about 7.5 percent of the population in that quintile benefited from this income source.

²⁷ To rank households into quintiles, we use per adult equivalent income net of each SP transfer (or combination of transfers); or net of private remittances. Note that in Bulgaria eligibility to some social assistance programs is based on income. This is in line with the eligibility criteria used by Bulgaria's Social Assistance Agency. See Annex 2 for the definition of household income used in this report.

Table 4.4: Coverage with social protection programs and private transfers as of February 2011

		Quintiles of per adult equivalent income net of each SP transfer					Increase from Feb-10	
		Total	Q1	Q2	Q3	Q4	Q5	Total Q1
All social protection	74.6	98.8	92.1	80.5	65.1	36.7	1.03	1.02
All social insurance	48.6	86.5	59.1	49.6	31.7	16.1	1.02	1.02
Old age pension	40.5	78.4	50.6	37.8	25.2	10.6	1.01	1.05
Disability pensions	11.6	23.1	12.9	9.8	6.2	6.3	0.99	0.96
Survivor pension	4.8	7.0	4.9	4.9	4.5	2.8	1.02	0.82
All labor market programs	3.9	9.1	6.2	1.3	1.8	1.3	0.77	0.76
Unemployment benefit	3.9	9.1	6.2	1.3	1.8	1.3	0.77	0.76
All social assistance	39.5	65.9	41.2	40.9	31.3	18.1	1.03	1.10
Disability benefit	2.1	2.9	3.8	2.4	1.1	0.2	1.63	1.55
Scholarship	1.9	1.7	1.9	1.0	2.2	2.8	0.70	0.73
Maternity leave for new child	4.1	8.7	2.4	4.0	2.1	3.2	0.88	1.32
Other individual level SA	5.6	6.8	6.7	6.1	4.4	4.0	1.30	1.46
Monthly child benefit	31.6	48.9	31.5	37.1	27.9	12.8	1.04	1.07
Infant benefits	2.6	3.3	2.8	2.4	3.4	0.9	1.13	0.63
Monthly Benefits for Individuals and Families (MBIF)	1.6	4.9	1.2	1.5	0.2	0.2	1.12	1.17
Heating allowance	3.8	13.3	2.4	1.9	0.9	0.3	0.92	1.04
All remittances	3.8	7.4	3.4	4.1	1.9	2.2	0.59	0.85
Transfer from relatives fr. abroad	3.8	7.4	3.4	4.1	1.9	2.2	0.59	0.85

Notes:

Program coverage is the portion of population in each group that receives the transfer. Specifically, coverage is: (Number of individuals in the group who live in a household where at least one member receives the transfer)/(Number of individuals in the group).

95. **Amid the twilight of the crisis, during February 2010 and February 2011 the targeting performance of social assistance spending was strong, but lower than in 2007.** Targeting accuracy, i.e., the share of cash transfers that reaches a certain income group such as the poorest quintile, is the indicator that is most relevant for social assistance programs, especially means-tested programs. Bulgaria has a history of well-targeted programs, as documented by the World Bank (2009) based on the 2007 Multitopic Household Survey. In 2011, these programs continue to top others in terms of targeting, but their overall performance has deteriorated²⁸. The targeting accuracy of the disability allowance program went down from 39.8 percent in 2007 to 31.5 percent in 2011. The share of monthly child benefits accruing to the poorest quintile went down from 41.1 percent in 2007 to only 32.7 percent in 2011. For other programs, targeting accuracy improved. The share of heating allowances going to the poorest quintile went up from 63.8 percent in 2007 to 68 percent in 2011. The CMS responses suggest

²⁸ The targeting accuracy of the MBIF program dropped from 88 percent in 2007 to 53 percent in 2011. This deterioration could be the result of the imperfect comparability of the CMS with the MTS 2007. The MTS 2007 had information on receipt of social assistance transfers for the whole year. The CMS collected this information only for the month of January or February. We note that January and February are the months where MBIF enrollments are always low due to recertification requirements, so the data is noisy and should not be taken into account as a valid comparison.

that targeting accuracy deteriorated during the crisis (2009), then improved marginally from February 2010 to February 2011. This temporary deterioration during a crisis is not atypical; it is hard to maintain the compliance of means-tested programs amid fluctuations in household income.

96. **However, from 2010 to 2011, the overall targeting accuracy of SA programs improved** by 7 percent. Many larger SA programs registered an improvement in targeting accuracy in 2011 (disability benefits, maternity leave) or maintained their accuracy (monthly child benefits, heating allowance). As expected, there was little change in the distributional pattern for pensions or unemployment benefits (as receipt is not related to household income, but to past contributions).

Table 4.5: Targeting accuracy (distribution of benefits across quintiles), February 2011

		Quintiles of per adult equivalent income net of each SP transfer					Increase from Feb-10	
	Total	Q1	Q2	Q3	Q4	Q5	Total	Q1
All social protection	100.0	44.4	23.6	15.6	10.0	6.4		0.97
All social insurance	100.0	53.9	20.0	14.0	8.1	4.1		1.02
Old age pension	100.0	54.9	20.9	13.0	7.8	3.3		1.01
Social pension for disability	100.0	47.2	21.5	15.1	7.6	8.6		1.00
Survivor pension	100.0	36.9	20.7	16.8	13.0	12.5		0.92
All labor market programs	100.0	48.3	29.3	6.6	6.8	9.1		1.07
Unemployment benefit	100.0	48.3	29.3	6.6	6.8	9.1		1.07
All social assistance	100.0	42.1	18.7	13.3	12.9	13.0		1.07
Disability benefit	100.0	31.5	22.3	9.7	6.6	29.9		1.68
Scholarship	100.0	47.2	12.2	2.1	10.6	28.0		1.45
Maternity leave for new child	100.0	27.1	16.3	16.0	10.8	29.7		1.54
Other individual level SA	100.0	21.0	16.2	17.7	14.9	30.2		1.84
Monthly child benefit	100.0	32.7	19.2	21.3	17.0	9.8		0.97
Infant benefits	100.0	13.9	23.9	16.9	38.0	7.2		0.28
Monthly Benefits for Individuals and Families (MBIF)	100.0	53.1	16.4	19.1	5.3	6.0		0.77
Heating allowance	100.0	68.5	15.4	11.2	3.8	1.0		1.00
All remittances	100.0	56.6	18.5	11.9	4.7	8.3		1.51
Transfer from relatives fr. abroad	100.0	56.6	18.5	11.9	4.7	8.3		1.51

Notes: Benefits' incidence is the transfer amount received by the group as a percent of total transfers received by the population. Specifically, benefits' incidence is: (Sum of all transfers received by all individuals in the group)/(Sum of all transfers received by all individuals in the population).

97. **Finally, we look at program generosity, or the share of household income derived from social protection transfers by the beneficiary households in a given population group.** Overall, we found that the generosity of social assistance cash transfers fell by 10 percent from February 2010 to February 2011, a response to budget constraints during 2010 (Table 3.6). This drop was less pronounced for the poorest quintile of the population, where the loss was only 4 percent. As for remittances, their average generosity increased for all recipients, but fell by 6 percent for the recipients in the poorest quintile (the receipt of remittances has become more unequal).

Table 4.6: Generosity of SP Transfers, February 2011

		Quintiles of per adult equivalent income net of each SP transfer					Increase from Feb-10	
		Total	Q1	Q2	Q3	Q4	Q5	Total Q1
All social protection	40.1	98.8	57.1	30.7	18.0	11.3	1.01	1.02
All social insurance	46.7	95.1	50.2	30.5	21.0	12.3	1.07	1.02
Old age pension	48.4	91.9	48.4	30.7	21.3	13.6	1.08	1.02
Social pension for disability	19.9	46.6	22.5	15.9	10.2	6.4	1.01	1.09
Survivor pension	13.3	30.9	16.9	10.3	7.4	7.2	1.05	1.07
All labor market programs	21.9	39.7	22.8	17.8	11.2	8.3	1.08	1.16
Unemployment benefit	21.9	39.7	22.8	17.8	11.2	8.3	1.08	1.16
All social assistance	15.6	43.8	17.5	9.7	8.9	8.4	0.90	0.96
Disability benefit	8.6	21.4	7.8	3.6	4.1	9.8	0.71	1.33
Scholarship	6.0	37.6	6.4	1.8	2.7	3.3	0.84	1.04
Maternity leave for new child	22.8	40.3	36.7	18.8	17.4	16.5	1.14	1.29
Other individual level SA	18.8	41.9	18.8	17.0	13.3	16.9	0.91	1.20
Monthly child benefit	5.4	15.8	6.7	4.6	3.5	2.5	0.96	1.00
Infant benefits	14.7	33.7	21.8	13.4	15.6	4.6	0.73	0.90
Monthly Benefits for Individuals and Families (MBIF)	14.7	29.8	11.4	8.2	9.2	9.3	0.59	0.64
Heating allowance	37.2	46.5	33.9	26.5	17.7	8.6	1.00	0.91
All remittances	18.1	46.9	22.8	9.3	6.3	5.5	1.45	0.94
Transfer from relatives fr. abroad	18.1	46.9	22.8	9.3	6.3	5.5	1.45	0.94

Notes:

Generosity is the mean value of the share transfer amount received by all beneficiaries in a group as a share of total welfare aggregate of the beneficiaries in that group. Generosity is calculated setting as expansion factor the household expansion factor multiplied by the household size.

98. **The overall SP response was successful in halting a severe fall in household incomes; it was also relatively costly.** The bulk of the social protection stimulus went to categorical social assistance programs, or financed redistributive elements within the social insurance system (e.g. social and minimum pensions). In 2009, the authorities preferred to increase categorical benefits at the expense of means-tested benefits. This injected a large amount of cash (transfers) into the economy; however, as these benefits were not targeted to the needy, their costs were higher than if using means-tested benefits. The stimulus under-utilized Bulgaria's battery of well-targeted programs (child allowances and especially the MBIF, which continues to cover a small percentage of the population and of the poor population in particular). A more cost-effective spending mix would have utilized more money of the means-tested programs to deliver social protection support.

5. CONCLUSIONS

99. **The report has used a unique dataset to track a number of welfare dimensions during 2010, the second year of the crisis and the beginning of the output recovery in Bulgaria.** The survey includes three nationally representative survey waves (February 2010, October 2010 and February 2011), and covers a large panel component. With this data set, the authors have been able to track the changes in household welfare during this period; describe how households have adjusted or coped with the crisis; and analyze how effective public policies were in protecting them from the effects of the crisis.

100. **Five key lessons emerge from this analysis:**

- i. **GDP contractions do not necessarily translate into comparable household welfare declines, i.e. seen as a decrease in current consumption or income of a similar magnitude, in part due to definitional differences that are more pronounced during recessions.** In 2009, the largest component of the GDP in Bulgaria, the aggregate household consumption, fell by 7.5 percent. Current household consumption, as measured by the Household Budget Survey, fell by less than 0.1 percent. While there are a number of reasons for these differences (for example the difference in the data source of household purchases), one which is particularly important during recessions is the difference in accounting the consumption of large-value goods such as durables, vehicles and housing. The flow of new purchases, included in GDP, fell by about a fifth in 2009. However, the stock of dwellings and durables that determines the “consumption” of such goods by households, has continued to rise in 2009 compared to 2008, albeit at a much smaller pace.
- ii. **A countercyclical public policy, especially an expansionary social protection policy, had compensated a large part of the decline in earnings in 2009** (see Chapter 4). This helped maintain the purchasing power of the average households during 2010. Average household incomes have remained remarkably stable during 2009 until the beginning of 2011. Poverty did increase, but by much less than would have occurred in the absence of the social protection policy response (see Chapter 2).
- iii. **Households were not passive.** While the Crisis Monitoring Survey detects relatively small changes in income poverty and limited income mobility, this does not mean that households have not adjusted to the crisis. A majority of the households have adjusted by increasing their labor supply, mobilizing their assets or social capital (to obtain income from remittances), or by adjusting their consumption pattern (see Chapter 4).
- iv. **The main household response to the crisis was a marked increase in the labor supply** (see Chapter 4). However, a large share of those seeking additional work were not able to find it, especially those with low education, human capital or from vulnerable

groups (e.g. minorities). A stronger focus of the labor market policy to facilitate the access of such groups to jobs during recession may be warranted.

- v. **Preparedness for future crisis or covariate shocks.** Given the low coverage of means-tested programs at the outset of the crisis in Bulgaria, the social protection policy used a broad set of programs and instruments, many categorical in nature, to increase the income of poor and vulnerable households. More reliance on means-tested support could have helped Bulgaria protect its poor and vulnerable populations at lower fiscal costs. It could also offer a better springboard to respond to future crisis. This means an increase in the scope (coverage) of key social assistance programs, such as the Monthly Benefits to Individuals and Families (MBIF), which is effective in reaching the poor and has potential to be expanded quickly.

101. **Beyond this report, another contribution of the cooperation between the Open Society Institute and the World Bank was in fine-tuning a Crisis Monitoring Survey that can be deployed in the future, should another crisis hit Bulgaria.** Obtaining information on who is impacted by the crisis and how is contingent of having an adequate survey in place, or ready to be deployed. Not having such a survey at the beginning of the crisis has limited the understanding of the anatomy of the crisis during 2009. In the future, Bulgaria is better prepared to generate information to underpin evidence-based policy responses.

Annex 1. The Crisis Monitoring Survey: Methodology, sampling and response rates

The report assesses the impact of the recession on household welfare and the effectiveness of Government policies in mitigating its costs on vulnerable households using a Crisis Monitoring Survey (see Box below).

Box A1.1 Bulgaria Crisis Monitoring Survey (CMS):

Questionnaire and key design parameters

- Three waves panel survey (every 6 months) to track the impact of the crisis over time. The baseline data were collected during the first wave, in the field in February 2010. The other waves were fielded in October 2010 and February 2011.
- *The CMS is a focused, shorter multi-topic household survey.* The survey will collect information about household demographics (roster); labor market participation and earnings; housing; durables; access to and receipts of social protection programs; informal safety nets & remittances; other incomes; credit; self-reported impact of the crisis; coping and mitigation mechanisms.
- *Focused on how Bulgarian households are affected and are coping with the crisis.* Through this survey, we try to map the coping strategies used by households in Bulgaria, such as: increase in labor supply; informal employment; reduction in expenditures; postponement of investments; sell of assets; reliance on formal/informal credit.
- *Checking whether the social protection system offers adequate protection to the poorest during crisis time.* The survey documents whether the unemployment benefits and the income-tested program work as automatic stabilizers (increase their coverage during crisis time); to identify whether income-eligible households are denied access to the MBIF or heating allowances on other grounds than income (for example, because of the 12 months time limit for the MBIF, or the requirement to register first as unemployment for 9 months before being able to apply for the MBIF program); and to identify whether there are arrears in payments, or other factors that postpone payment or delay the eligibility determination process.
- *Dis-aggregated by different socio-economic groups.* The survey will allow to disaggregate the results across the *income* distribution (focus on income and assets ownership, no consumption); ethnic majority vs. minorities (including a Roma booster).
- *Sample size.* The survey aims for a sample size of 2400 households, with a booster of 300

The empirical instrument used to track the effects of the crisis on households was a Crisis Monitoring Survey, implemented jointly by the OSI Sofia and the World Bank (CMS). The CMS aims (i) to influence policy making with “real time” information; (ii) to understand the transmission channels of the crisis (e.g. via labor markets, financial markets; product markets; government services and transfers); (iii) to measure the impact of the recession on household welfare and HD outcomes (to go beyond administrative data, or impact on the “average household”), across the income/welfare distribution; (iv) to document and describe the coping strategies of the households affected by the crisis; and (v) to determine whether the formal and informal safety nets are effectively mitigating the impact of the crisis. In particular, the survey will investigate in-depth how households are using the labor market to mitigate the impact of the crisis; whether the formal social protection programs, including those intended to act as automatic stabilizers, are protecting households against sliding into poverty; and the effectiveness of the informal safety nets. The CMS does not duplicate the Government’s own

efforts and systems to monitor the impact of the recession on household welfare, but complements them.

The value added of the CMS for the Government. The objective of the CMS is to produce just-in time information to feed in the policy making cycle on who is most affected by the crisis in a broad range of outcomes across the income distribution, and to profile the coping and mitigation mechanisms used by different types of households. In particular, the survey will investigate in depth how households are using the labor market to mitigate the impact of the crisis; whether the formal social protection programs, including those intended to act as automatic stabilizers, are protecting households against sliding into poverty; and the effectiveness of the informal safety nets. The CMS does not duplicate the Government's own efforts and systems to monitor the impact of the recession on household welfare, but complements them.

Box A1.2: Crisis Monitoring Surveys

Crisis Monitoring Surveys around the Region

Countries in Eastern and Southeastern Europe have been particularly affected by the global economic crisis. In response to crisis, governments, donors, and civil society organizations have been cooperating to conduct Crisis Monitoring Surveys that assess social and economic impacts of the crisis on households and individuals. Crisis Monitoring Surveys rely on modules that are specifically tailored to assess household circumstances in a crisis and provide real-time, nationally representative data that can inform policy.

Many countries in the region have well-developed data collection systems that include administrative data, labor force surveys, and household budget surveys. Crisis Monitoring Surveys, however, provide a unique instrument to assess:

- *The main transmission channels* of the crisis (such as labor markets, access to credit, remittances/informal transfers, relative prices, government services) through which it affects income. In particular, the Crisis Monitoring Survey labor modules are uniquely designed to capture how the crisis affects households in the labor market.
- *The mitigation strategies* adopted by households and the extent to which they negatively affect welfare and increase vulnerability including indebtedness
- *The existing safety nets* (including government assistance and informal transfers) and the extent to which they respond to the crisis.
- *The impacts on welfare* that cannot be quantified through data, including: reduced expenditures on health, education, and food

Stand-alone Crisis Monitoring Surveys are being (or already have been) conducted in: Turkey, Montenegro, Romania, Armenia, Georgia, Bulgaria and Tajikistan. A number of countries (Latvia, Croatia, Serbia, and Armenia) have also included Crisis Monitoring Modules into routinely conducted Labor Force or Household Budget Surveys. In Romania, Serbia, and Turkey, representative household surveys have been combined with non-representative qualitative data collection to understand the effect of the crisis on vulnerable groups, including Roma.

Bulgaria Crisis Monitoring Survey

In Bulgaria, the World Bank partnered with the Open Society Institute (OSI) Sofia to conduct a Crisis Monitoring Survey in three waves: February 2010, September 2010 and February 2011. The Bulgaria Crisis Survey combines modules that have been used in crisis surveys in a number of countries (including crisis-specific labor, credit, and coping strategies modules) with uniquely detailed modules on income and social assistance.

The survey questionnaire that was used to generate the data follows the philosophy of integrated household surveys. It consists of separate components containing both household and individual modules.

- The definition of “*household*” used in this survey is as follows: People who live under the same roof, share common budget and have at least one meal per day together.
- A “*household member*” is someone who has lived in the household at least three months in the last 12. This includes someone who has moved in within the last three months, not necessarily a usual member, but someone who lives under the same roof and shares the same budget. Always considered as household members are the head of the household, newly married couples and babies.
- The *head of the household* is defined by the household members themselves.

A. Questionnaire design

The questionnaire consists of 10 modules.

- **Roster**—data was collected on individual level and each household member’s profile was registered (demographic characteristics, marital status, education, health, ethnicity and religion).
- **Labor**—data was collected in two parts on individual level from each household member age 15 and over, who was asked whether he or she worked in the last 4 weeks. Those who had were asked about position, salary, working hours, social insurance, etc. Those who had not were asked why not, whether they had looked for a job, if yes, what kind of job, if no, why.
- **Housing**—data was collected on a household level and included questions about living conditions (type of dwelling, total area, availability of electricity, water supply, heating and so on), and whether there were any unpaid bills.
- **Assets**—data was collected on a household level and included questions about ownership of goods and durables (TV, stove, refrigerator, car, computer, telephone, etc.).
- **Social assistance and unemployment**—data was divided into three parts and collected information on both individual and household levels. All types of social assistance and other benefits (pensions, maternity benefits, scholarships) were registered.
- **Informal transfers and support**—the data was collected on a household level about all types of support (in money or in kind) for the last 12 months from the country and abroad.
- **Other income**—data was collected on a household level regarding annual additional income (for example, income from rent, agriculture, sales etc.)
- **Credit**—data was collected on a household level and detailed information about credits and mortgages was gathered.

- **Effects of crisis and coping strategies**—data was collected on a household level concerning how the household members were affected by the crisis (losing their jobs, unpaid salaries and so on) and ways to cope (reduced consumption of objects of common use).
- **Subjective questions**—data was collected on individual level and some economical and other attitude questions were asked (for example, “How would you describe the situation in the country at this moment?”)

B. Sample design

- **Sample types and sample sizes**

The survey was planned and realized as a panel survey. Three waves were conducted—first one in February 2010, the second one in September 2010 and the third one in February 2011.

The universe under study consists of all households in Bulgaria (NSI, Census 2011, N=2,856,740). The survey used two different types of sampling strategies. The main one was nationally representative of households in Bulgaria. In the sample design plan, 2,400 households had to be interviewed. In each of the three waves this plan was realized as follows:

	households	household members
First wave (Feb. 2010)	2,384	6,653
Second wave (Sept. 2011)	2,298	6,225
Third wave (Feb. 2011)	2,329	6,180

The universe of the booster study consists of all the households in segregated settlements or areas of compact segregate population. The sample is representative for the households living in such compact areas. In the sample design plan, 300 households had to be interviewed. In each of the three waves this plan was realized as follows:

	households	household members
First wave (Feb. 2010)	296	1,099
Second wave (Sept. 2011)	293	1,115
Third wave (Feb. 2011)	296	1,077

- **Main sample design**

The main sample was created in two stages.

First, the population was stratified by *district* (NUTS 3) and *type of settlement*. In Bulgaria, there are 28 administrative districts. For the *type of settlement* three categories were defined—*rural*, *urban* (with population under 50,000) and *metropolitan* (with population over 50,000). Bulgaria's capital, Sofia, is include in the *metropolitan* category. In this way $28 \times 3 = 84$ categories (*strata*) were defined and proportional allocation was made, i.e. the number of households included in the sample from each stratum was calculated as a proportion of the total number of households in the stratum. The method of selecting settlements from each stratum is simple random sampling with replacement, weighted by the number of households in the settlement. Hence, some of the bigger cities could be drawn out more than once. For example Sofia was selected 40 times in the main sample.

The second stage chose voting stations in each settlement. In this methodology, voting stations were used as a type of cluster. In each cluster, 10 households had to be interviewed. In one voting station there could be put down various numbers of voters. So, voting stations were selected with probability proportional to the number of voters in each station. In each cluster, (voting station), 20 household addresses were selected randomly from the list of all addresses in

the station. The first 10 addresses are a kind of *main list*, i.e. they have to be visited obligatorily. If there is a refusal in some of this main list, it has to be replaced with an address from the *list of reserves* (the last 10 addresses).

There were some exceptional cases from this sampling rule. In seven (rural) settlements, there were no street names, no house names and no other way to identify the exact address of the residents. For those settlements and for those, from the booster, GPS sampling was used. This is a geographical method to choose the households, which have to be interviewed, randomly. The sampling model will be explained in details in the item for the booster.

Table 1. Main sample—number of clusters by districts (NUTS 3) and types of settlements

(NUTS 3)	Total number of clusters	Rural	Urban	Metropolitan
Blagoevgrad	10	4	4	2
Burgas	13	4	3	6
Dobrich	6	2	1	3
Gabrovo	4	1	1	2
Haskovo	8	2	3	3
Kardzhali	5	3	1	1
Kyustendil	5	1	2	2
Lovech	5	2	3	0
Montana	5	2	3	0
Pazardzhik	9	3	3	3
Pernik	4	1	1	2
Pleven	9	3	2	4
Plovdiv	22	5	4	13
Razgrad	4	2	2	0
Ruse	8	2	1	5
Shumen	6	2	1	3
Silistra	4	2	2	0
Sliven	7	2	2	3
Smolyan	4	2	2	0
Sofia district	8	3	5	0
Sofia-city	42	2	0	40
Stara Zagora	11	3	2	6
Targovishte	4	2	2	0
Varna	15	3	2	10
Veliko Tarnovo	9	3	4	2
Vidin	3	1	0	2
Vratsa	6	2	2	2
Yambol	4	1	1	2
Total	240	65	59	116

- **Booster on Roma segregated communities**

For the booster, an expert database was used. It contains basic information for all segregated neighborhoods in the country like *locality* (district, municipality and settlement), an experts' approximation for the *number of population, number of households, number of houses* and other characteristics. The planned booster size sample was 300 households. We used this expert database for simple random sampling without replacement of segregated neighborhoods, weighted by their population. In this way, we selected 30 segregated neighborhoods in 20 districts. In each district, 10 randomly sampled households had to be interviewed.

Table 2. Booster—locality of the segregated neighborhoods

District	Municipality	Settlement
Blagoevgrad	Gotze Delchev	Gotze Delchev
Burgas	Burgas	Burgas
Burgas	Burgas	Rudnik
Varna	Varna	Varna
Veliko Tarnovo	Svishtov	Svishtov
Vratsa	Biala Slatina	Biala Slatina
Vratsa	Borovan	Borovan
Dobrich	Dobrich	Karapelit
Kyustendil	Kyustendil	Kyustendil
Lovech	Lukovit	Lukovit
Montana	Lom	Lom
Pazardzhik	Pazardzhik	Pazardzhik
Pazardzhik	Peshtera	Peshtera
Pazardzhik	Pazardzhik	Govedare
Pernik	Pernik	Pernik
Plovdiv	Plovdiv	Plovdiv
Plovdiv	Марица	Kalekovetz
Ruse	Ruse	Ruse
Ruse	Slivo pole	Kosharna
Sliven	Sliven	Sliven
Sofia district	Botevgrad	Novachene
Sofia district	Etropole	Etropole
Sofia-city	Sofia	Sofia
Stara Zagora	Stara Zagora	Stara Zagora
Stara Zagora	Kazanlak	Kazanlak
Stara Zagora	Stara Zagora	Kalitinovo
Targovishte	Targovishte	Ostrec
Haskovo	Dimitrovgrad	Dimitrovgrad
Haskovo	Dimitrovgrad	Krepost
Shumen	Shumen	Shumen

GPS sampling was used to identify the households in each cluster, because of the very specific living conditions in the segregated areas. For example, one neighborhood may be spread out an open field and there are neither addresses, nor streets, but only buildings out of regulation. Another example is neighborhoods, where at one single address there are two, three or more different buildings, inhabited by independent households. These specific conditions in segregated neighborhoods do not allow using a list of addresses from voting stations or any other kind of addresses.

The GPS sampling strategy included the following steps

1. **First**, get geographical coordinates of the four framing points of the neighborhood or the settlement, if the whole settlement is of this type. Framing points are the most northerly, westerly, easterly and southerly points of the residential area. Connecting these four points, a rectangle appears and the neighborhood/settlement is inscribed in it.
2. **Second**, select 20 geographical coordinates in this rectangle. This procedure is made by random number generator, as each coordinate is determined by its longitude and latitude. If some of the selected points belong to the rectangle, but don't belong to the neighborhood, they have to be removed from the list and new random coordinates have to be generated. For each selected coordinate, the nearest "door" (i.e. nearest dwelling) is chosen. This dwelling (house, or any kind of building) has to be described in some way that allows the interviewer to find it. If there is an address, it have to be written down, if not—each specific symbol has to be noted down, like household name, the color of the building, type of the door, post number and so on. Finally, there is a list with 20 randomly chosen "addresses"—10 for the main list and 10 for the additional one.
3. If there are blocks of flats in the neighborhood, people who live there will have smaller chance to be selected than those who live in a house. The reason is that the procedure picks out the nearest door of dwelling to a chosen geographical coordinate in 2D. This problem could be solved by dividing the population into 2 parts—those who live in houses, and those who live in flats. Then, a list of all flats with the total number of people, who live there, has to be made. The total number of addresses (main and additional) also has to be divided into 2 parts proportionally to the population in the houses and in the flats respectively. In addition, two independent samples have to be drawn out—one for the houses (GPS sample), and one for the flats (simple random sample from the list of flats).
4. To guarantee the representativeness of this procedure, an equal chance for each household selection has to be given. This could be done by creating a lattice over the area of the neighborhood with size of a cell equal to the size of the largest yard in it. Then select only some of the cells from this lattice by geometrical rule. The idea is to reduce the influence of the larger yards and to generate points (coordinates) randomly only in the selected sells.

The main advantage of this method in comparison with "*random walk*" is that with "*random walk*" the enumerator has the possibility to make his/her own choice, i.e. to select one household instead of another. By contrast, GPS sampling is not subjective.

C. Main sample characteristics

Both samples (main and booster) are representative for Bulgaria on a household level. In the roster, there is a detailed description of all household members. It contains information for basic demographic characteristics as sex, age, marital status, health insurance status, education, ethnicity, religion. Therefore, the main sample is representative also for the entire population in Bulgaria.

To examine the quality of the sample, we compare information, gathered by NSI in the official census 2011 and from this survey. The distribution of the population by some main demographic characteristics is the same as in the roster for this survey.

Table 3. Distribution by sex

Sex	Population (NSI)		Main sample, 1 st wave		Main sample, 2 nd wave		Main sample, 3 rd wave	
	Count	Valid percent	Count	Valid percent	Count	Valid percent	Count	Valid percent
Male	3580337	48,7 percent	3255	48,9 percent	3013	48,4 percent	2992	48,4 percent
Female	3770897	51,3 percent	3396	51,1 percent	3212	51,6 percent	3186	51,6 percent
Total	7351234	100 percent	6651	100 percent	6225	100 percent	6178	100 percent

Table 4. Distribution by age groups

Age	Population (NSI)		Main sample, 1 st wave		Main sample, 2 nd wave		Main sample, 3 rd wave	
	Count	Valid percent	Count	Valid percent	Count	Valid percent	Count	Valid percent
0—17	1172208	15,9 percent	1114	16,8 percent	1035	16,6 percent	979	15,8 percent
18—64	4789967	65,2 percent	4308	64,8 percent	4011	64,5 percent	3964	64,1 percent
65+	1389059	18,9 percent	1225	18,4 percent	1177	18,9 percent	1237	20,0 percent
Total	7351234	100,0 percent	6647	100,0 percent	6223	100,0 percent	6180	100,0 percent

D. Response rates

- Planned and realized interviews**

Almost all of the planned interviews were realized in the main sample, as well as, in the booster. We deleted the information from several completed questionnaires because they contained

insufficient information, most of the questions had incorrect answers, or otherwise did not conform to the methodology of the survey.

There are several clusters with fewer than 10 interviews. That is because the enumerator could not end the fieldwork in time, or because there were regions (clusters) in which very few of the households agreed to give information about their families.

Table 5. Planned and realized interviews by type of samples

	Main sample		Booster	
	Count	percent	Count	percent
First wave (Feb. 2010)	2 384	99 percent	296	99 percent
Second wave (Sept. 2011)	2 298	96 percent	293	98 percent
Third wave (Feb. 2011)	2 329	97 percent	296	99 percent

- **Using additional addresses**

For each cluster, there was a list of 10 addresses that had to be visited by the interviewer and an additional 10 addresses in reserve. If any of the first 10 addresses did not exist, was locked for a long time or the people categorically refused to be interviewed, the additional ones came into use. According to the instructions, the interviewer had to visit each address in the main list three times, unless the building (or flat) was obviously uninhabited. The interviewer had a protocol: to note down what happened at each visit to each address of the list. At addresses where the interview did not take place, the interviewer noted the reason.. Once an interview was done, the questionnaire got an ID that showed whether the address was on the original list or not.

- **Percent of people who agreed to participate in the second wave**

The survey was designed to be a panel and the idea is that it will be repeated in six months (or in a year). In the first wave, at the end of the questionnaire there was a question for the respondent if he/she agreed to take part in the second survey wave or not. If he/she agreed, the interviewer wrote down his/her phone number or e-mail.

Table 7. Agreement for the second wave by types of samples

Agree for second wave	Main sample		Booster	
	Count	Total percent	Count	Total percent
Yes	1529	64 percent	139	47 percent
No	661	28 percent	109	37 percent
Non-response	194	8 percent	49	16 percent
Total	2384	100 percent	297	100 percent

In the main sample there were more refusals and non-found people than in the booster. On the contrary, people from the booster didn't want to participate in the second wave in a bigger extent than those from the main sample. Still, over 62 percent of all respondents in the first wave were ready to take part again in September, a rather high percentage.

Before the beginning of the second wave, we decided to visit each household from the first wave, nevertheless it had given agreement for second participation or not. Actually, there were households who had said they didn't want to be visited again but agreed to be interviewed a second time when the interviewers stopped by again. For that reason, we decided not to ask for permission for a third interview, but to visit all the households from the first wave and possibly the second wave as well.

E. The panel component

This survey was planned and realized as panel survey in three waves. Households that were interviewed in February 2010, i.e. first wave, were asked if they agreed to be visited again after 6 months.

In the second wave, six months later, all the 2, 384 households were visited again whether or not they agreed to take place in the survey again. To complete the list with households from second wave to 2,400, some additional addresses were drawn out in the same sampling procedure, in the same clusters as in the first wave. Therefore, in the second wave, there were two types of households, taking place in the survey:

- ✓ **first**, these who were interviewed in the both waves;
- ✓ **second**, these only from the second wave (additional ones).

In the third wave, September 2011, the same scheme was followed. There were three types of addresses

- ✓ All the households from the first wave, nevertheless they were interviewed in the second, or not;
- ✓ Addresses of the households only from the second wave;
- ✓ Additional addresses—to complete the list to 2, 400 households.

The enumerator had to visit first households from the first wave, then these, which were visited only in the second wave, and at last, if there were less than 10 interviews done in the cluster, to get addresses from the list with additional ones. Therefore, in the third wave, there were four types of households, taking place in the survey:

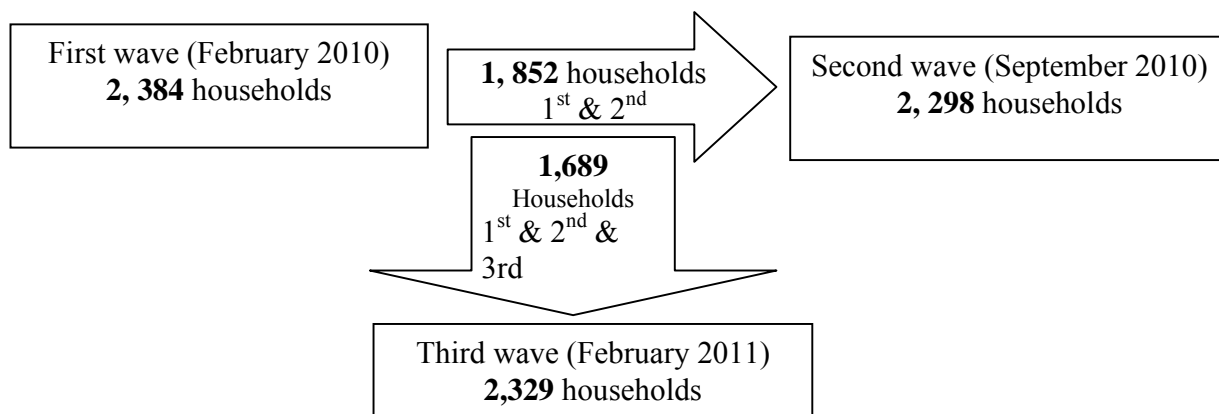
- ✓ From all the 3 waves;
- ✓ From the first and the third wave;
- ✓ From the second and the third wave;
- ✓ Only from the third wave.

To be able to make conclusions from the panel, i.e. to observe changes at an individual level, we used information the households that were interviewed in all three waves, i.e. first type from the list above.

We have a very good response rate for the panel survey. In the second wave, all 2, 384 households were visited again. From this population, 1,852 households were interviewed in the second wave, 78 percent of the original respondents. The remaining 22 percent were completed with new addresses and each household that was not interviewed was replaced with a new one in

the same cluster. Therefore, the distribution of the sample by *district*, *settlement type* and *clusters* is the same in the second and third waves as in the first one.

In the third wave (September 2011) 1,689 of the households was interviewed for the third time, i.e. this is the number of participants in the three waves of the survey, which is 71 percent of the initial population of 2,384 households.



The quality of the panel is examined by comparing the main demographic characteristics of the population in the panel with these from the official Census 2011, conducted by NSI. There are no significant differences between the distribution of the two populations by sex and age.

	Population (NSI)		Population in the panel	
	Count	Valid percent	Count	Valid percent
Sex				
Male	3 580 337	48,7 percent	2 105	48,2 percent
Female	3 770 897	51,3 percent	2 265	51,8 percent
Total	7 351 234	100 percent	4 370	100 percent

	Population (NSI)		Population in the panel	
	Count	Valid %	Count	Valid percent
Age				
0—17	1 172 208	15,9	722	16,5
18—64	4 789 967	65,2	2 785	63,7
65+	1 389 059	18,9	863	19,7
Total	7 351 234	100,0	4 370	100,0

Annex 2: The Crisis Monitoring System of the Bulgarian Government

The Government uses a number of statistical and administrative data sources to monitor the impact of the crisis on the population, in particular:

- The HBS is used to estimate *monthly* the level of income and consumption of the average household, and in per capita terms. This is compared to the situation in the same of the previous year, as well as over time. The data, labeled as preliminary, are released with a two months lag.
- The LFS is used to track the dynamics of employment and unemployment, and to generate a profile of the unemployed. The data is released quarterly, with a two to three months lag.
- The structural survey of large and medium enterprises is used to track formal employment and wages, with a three-month lag.
- Administrative data on the number of registered unemployed is published by the Employment agency with one-month lag; and of beneficiaries of unemployment benefits by the National Social Security Institute, with a three months lag.
- Information about the number of beneficiaries of social assistance program is published by the Social Assistance Agency, with three to six month lag.
- A preliminary estimate of the GDP, by production and uses, is released by the National Statistical Institute with a two month lag.

However, the scope of the government monitoring system is limited, especially in generating information about the impact of the crisis on household welfare. Although the National Statistical Institute operates a number of household surveys²⁹, they do not focus explicitly on the impact of the economic crisis on household welfare.

1. The Household Budget Survey suffers from three problems. *First*, the scope of the HBS is quite limited (a bare-bones income and consumption survey, with very limited information on other socio-economic characteristics). It cannot be used to identify the correlations between those impacted by the crisis and their socio-economic characteristic. *Second*, the HBS sample suffers from representativity problems—over-represents the beneficiaries of social protection benefits, and under-represents high-income and middle-income earners, as well as those working in the informal sector. In a period where informal employment is increasing in the LFS, the share of informal employment in HBS is abysmally small and stable. Third, the monthly sample size of the HBS is rather small—about 250 households--reducing the precision of the preliminary income and expenditure data published by the National Statistical Institute.
2. Survey of Income and Living Conditions (EU-SILC). The main issue with EU SILC is one of timing—a clean data set is available only two years after it is collected, due to the implementation calendar of the survey. During each spring, the survey collects income information for the preceding year: in spring 2008, it collects the annual income from 2007. By the time all this data is aggregated from oblasts to the NSI, cleaned and processed, it is the end of the next year.
3. Labor force survey. It is useful to capture the trends in employment and unemployment; hence, it captures the employment shocks. Does not have information on income or consumption, to capture the distributional profile of these shocks.

²⁹ NSI operates three annual household surveys: (i) Household Budget Survey (HBS); (ii) Labor force survey (LFS); and (iii) the Survey of Income and Living Conditions (EU-SILC).

For all the above surveys, access to NSI micro data is difficult (there is no clear open-access policy); there are significant lags between data collection and the production of final, cleaned data; and the quality of the surveys data is in doubt³⁰.

**Indicators used to monitor the impact of the crisis on household welfare
based on the “EU Questionnaire on the Social Impact of the Crisis in Bulgaria”**

The first battery of indicators tracks the living standard of the population. Under this dimension the most commonly used indicators are linked with the system of National Accounts, monetary statistics and business confidence surveys:

- GDP per capita real growth, share of compensations of employees of GDP, real labour productivity and labour cost indexes, dynamics of output, turnover, new orders, etc. in industry, construction, trade and services, indicators on business climate in industry, construction, services and trade (incl. expectations about employment);
- Direct foreign investments in economy – by sector and by regions of the country;
- Information about deposits and credits;
- Consumer price indexes – national and harmonized price indexes;
- Cost-of-living index – the increase of prices of goods and services consumed by 1st fifth of the households having the lowest incomes, etc.

The second battery of indicators focus on the labor market. The following set of indicators is used:

- Data of Labor Force Survey on employment, unemployment, inactivity, etc.;
- Data of National survey of employees and wages – to collect data on employees by sector and wage dynamics by sector, including labor costs;
- Data produced by Employment Agency on the number of registered unemployed persons (by sex, age, education, duration of unemployment, etc.), unemployment rate, vacant working places, announced by the employers procedures of mass layoffs, etc.;
- Data on participants in active labor market measures and programs, produced by National Employment Agency.

The third battery of indicators focuses on the general dynamics of incomes and expenditures of Bulgarian households. Data is based on the National Household Budget Survey. Data is produced on a monthly basis and provides information about the dynamics of the average household income (by sources of income), including for low-income households. HBS also provides information on households' expenditures (by type of expenditure).

The fourth battery of indicators tracks social protection benefits and social services in general. The following indicators are observed on a regular basis:

- Number of pensioners;
- Number of unemployment benefit recipients;
- Number of sickness cash benefits;
- Number of social assistance benefits;
- Number of family benefit recipients;
- Number of people with disabilities receiving allowances;
- Number of social services in community;
- Number of people placed in institutions;
- Number of community based services beneficiaries;
- Number of children and families beneficiaries of child protection measures.

³⁰

The sample of the HBS and EU-SILC seem to over-represent households of employees and beneficiaries of social protection transfers; and under-represent middle-to-upper income households, as well as the employers and the self-employed. The share of non-response is high for both surveys.

Annex 3. Income Estimation in the CMS

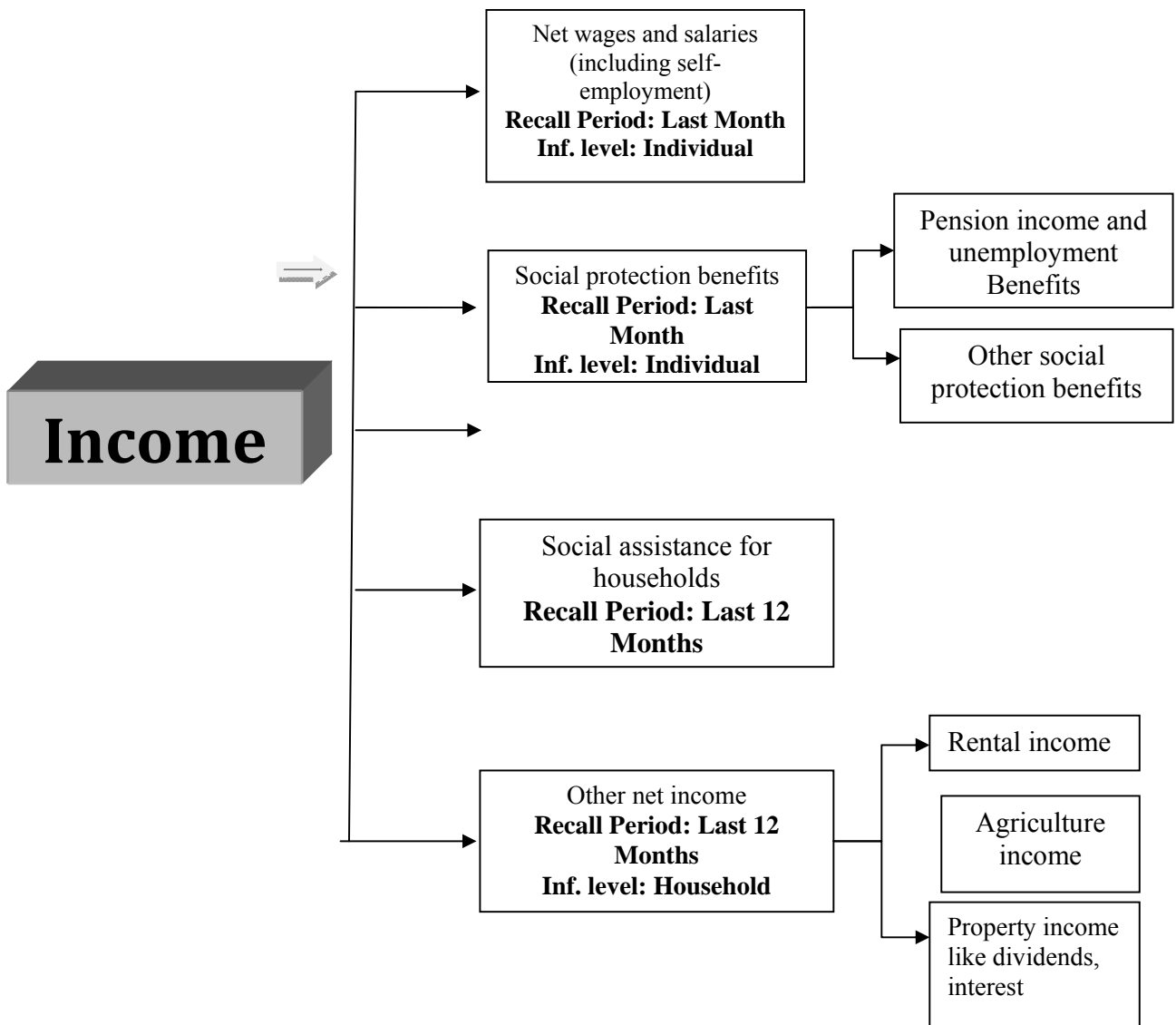
CMS collected detailed information on labor market, unemployment benefits, social protection benefits, social assistance, informal transfers from relatives and friends from abroad and within Bulgaria, the household's income from other sources such as agriculture, and property income through separate modules. The information was collected either at the individual or household level depending on the direct beneficiary (See Figure A3.1). For example, the information about income from labor, unemployment benefits, individual level social protection and assistance is collected at an individual level, while agriculture income and rental income are collected at household level.

The household income calculated from the separate modules includes all receipts of the household and its members over a month. It is net of all taxes and contributions (i.e., it refers to net monthly income). The recall period for income from labor, unemployment benefits, and social protection benefits accruing to individuals was last month, while the recall period for social assistance accruing to households, informal transfer income and other incomes at household level was last 12 months. In case of 12-month recall period, a monthly value is derived.

In addition to separate individual modules, the survey also asked households about their aggregated total income during the last month. There is very high correlation between per capita income calculated from individual modules and the aggregate reported by households, and the quintiles calculated from these two incomes overlap. The income estimates from CMS compares well with the household income estimates from HBS reported by National Statistical Institute (See Table A3.1).³¹

³¹ The income estimates from CMS is not strictly comparable to estimates reported by NIS from HBS for following reasons: a) While the income estimates for CMS refer to net income, the income estimates from HBS refer to gross income. b) The CMS estimates refer to monthly income in March, 2010, while the HBS estimates refer to monthly income in December, 2009.

Figure A3.1: Components of Income



Note:1) Pension income include income from old age pension, survivor pension, pension from abroad, social pension for disability, and social pension for old age. 2) Other social protection benefits include income from lump sum payment for childbirth, lump sum payment for pregnancy, foster family benefits, disability benefits, scholarship, and other benefits given to individuals. 3) Social assistance for households includes heating allowance, assistance for low-income households, monthly child benefits and infant benefits.

Table A3.1. Comparison of per capita income with HBS

	Income in December, 2009	Income in February, 2010
	Source: HBS, NSI	Source: CMS
	Income reported are gross income	Income reported are net income
Total income	315.2	353.7
Labor income	206.5	216.3
Unemployment benefits	2.0	2.6
Pensions	90.7	91.6
Other Social benefits	10.9	17.4
Regular inter-household transfers	2.2	12.1
Property income	3.0	3.7
Other income		10.0

Note: 1) Wages and salaries, self-employment income and other earnings reported by NSI are combined to calculate labor income in HBS. 2) While the income estimates for CMS refer to net income, the income estimates from HBS refer to gross income. 3) The CMS estimates refer to monthly income in March 2010, while the HBS estimates refer to monthly income in December 2009. 4) Other income includes income from agriculture, interests and dividends from property. 5) Property income refers to rental income.

Source: NSI (www.nsi.bg) and CMS, 2010

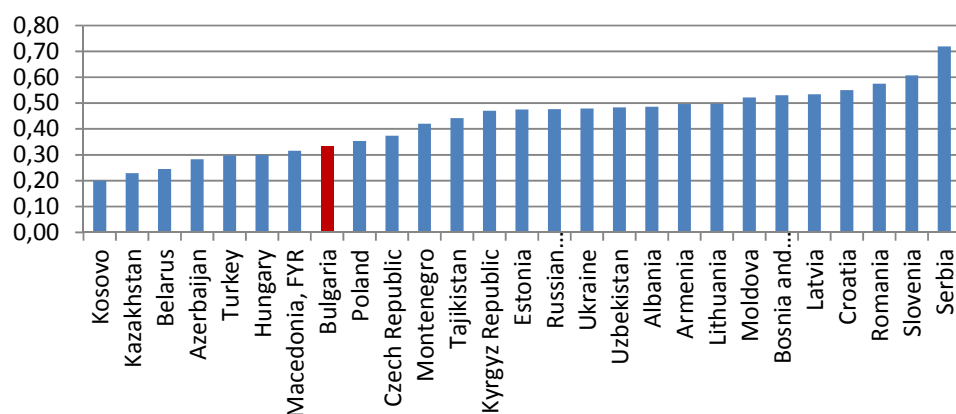
Annex 4: Labor regulation in Bulgaria from a regional perspective

This appendix displays the strength of labor regulation in Bulgaria, in comparison with the other countries of the ECA region. Four indexes are built from the Doing Business databases, which consider (i) the difficulty of hiring, (ii), the rigidity of hours, (iii) the difficulty of firing and (iv) the costs of firing.

Each index is computed as a simple average of indicators derived from the Doing Business. For each question, one defines a linear scale based on the DB indicator. By assumption, the country with the strongest regulation is put at the top of the scale, receiving a score of one, while the country with the lightest regulation receives a score of zero.

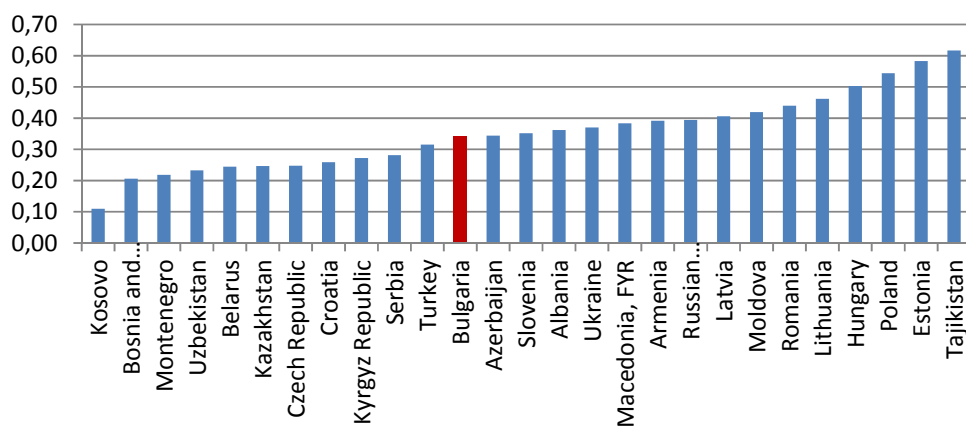
Into “difficulty of hiring” are gathered indicators about work contracts regulation and minimum wage. In a regional perspective, labor regulation seems to be rather limited in Bulgaria; see figure A.4.1.

Figure A.4.1: Doing business index of difficulty of hiring, 2011



The “rigidity of hours” category gathers information about restriction about work time, paid leave and legal premium for overtime. Labor regulation in Bulgaria does not seem dramatic either in this domain in comparison of its neighboring countries, see figure A.4.2.

Figure A.4.2: Doing business index of rigidity of hours, 2011.



Labor regulation seems to be rather strong in the area of firing. It is both legally complicated and costly to lay off workers in Bulgaria, as seen in figures A.4.3 and A.4.4. Those obstacles might therefore have played a role in limiting growth in employment in the formal sector. However, the difficulty of laying off formal workers may explain why informal workers absorbed a disproportionate share of the labor market adjustment, see figure A.4.3.

Figure A.4.3: Doing business index of firing difficulty, 2011

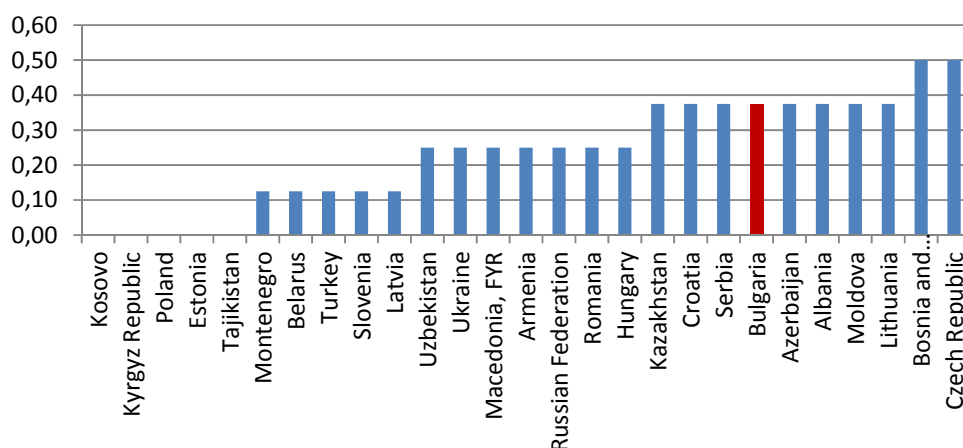
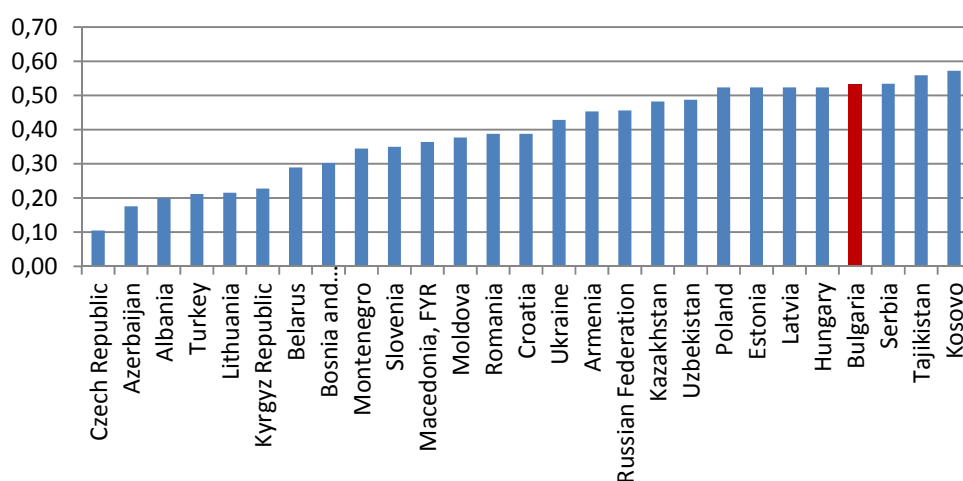


Figure A.4.4: Doing business index of firing cost, 2011



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