BULGARIA

SELECTED ISSUES PAPER

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GROWTH AND EMPLOYMENT

Bulgaria experienced rapid growth in the decade prior to the global crisis but remains the poorest EU member. The crisis has also raised new challenges, with a reversal in employment gains for low-skilled workers and a more uncertain basis for sustainable growth in the post-crisis period. This chapter reviews recent developments in growth and employment and highlights key constraints to growth suggested by cross-country competitiveness studies.

1. GDP has grown substantially since economic and financial stabilization in 1997, although this growth is attributable mainly to the period before the global financial crisis (chart). The stabilization efforts set the foundation for growth after the turmoil of the post-communist transition and 1997 financial and banking crisis. In the 2000s, growth accelerated on the back of the EU-related reform drive—which culminated in EU accession in 2007 and a foreign financed boom. Overall, real GDP was 47 percent higher in 2012 than in 2001.

2. On a per capita basis, real GDP increased 59 percent, as the population declined. Only Latvia and Lithuania experienced a greater difference between these measures (chart). The potential drag on overall growth from the adverse population dynamics was countered by a rising participation rate during the boom years, which has left the labor force slightly larger at present than ten years earlier (chart).²

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¹ Prepared by Frank Lakwijk and Borja Gracia. The paper has benefitted from useful suggestions by the Bulgarian National Bank and Ministry of Finance as well as the European Commission and World Bank.

² Data on developments over this period in the, by all accounts, substantial informal economy are limited.
3. **However, Bulgaria remains the poorest EU member.** Elsewhere in the region countries experienced similar boom-related growth as Bulgaria. In addition, as Bulgaria started from a low income level, it needed higher growth to narrow the income gap with other European countries. In the event, using WEO data, the difference in per capita income between Bulgaria and the EU average widened by about US$1,600 over the period 2002–12—a large amount given per capita income in Bulgaria in 2012 of US$14,300 (chart). In relative terms, as a share of the EU average, per capita income increased from a third to almost 50 percent.

4. **The global economic crisis had a major effect on Bulgarian growth and employment** (chart). After falling by 5½ percent in 2009, real GDP has grown at a low rate, and by 2012 real GDP was still 3 percent short of its 2008 level. However, employment growth was negative during 2009–12 (with a cumulative decline in this period of 11 percent), and the first small uptick occurred only in 2013. The unemployment rate by 2012 had returned to its level of 2004, but appears to be stabilizing in 2013. Among noncrisis countries, Bulgaria performed relatively well in terms of GDP growth, but sustained one of the largest employment hits (chart).

5. **What explains the relatively large labor shedding since 2008?** Relative to regional comparators, employment losses in Bulgaria in this period were double what is explained by the growth decline (chart). Bakker and Zeng (2013) suggest that corporate balance sheet adjustment, which was especially significant in countries with high saving-investment imbalances at the beginning of the crisis such as Bulgaria

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3 Bulgaria is poorest on the basis of GDP per capita at market exchange rates. Romania is poorest on a PPP basis.
6. The large decline in employment is also explained by the impact of the crisis on construction and manufacturing. Employment grew in all sectors during the boom but the decline fell more on some sectors than others (charts). Construction suffered disproportionately from the fall in investment that followed the end of the capital inflows and credit boom, and has not yet begun to recover. Value added in the construction sector declined by 23 percent between 2008 and 2012, while employment was reduced by 38 percent. Manufacturing employment, which before the crisis was already experiencing a long-term decline in its share in total employment, was hard hit by the export collapse in the global financial crisis, and did not pick up subsequently despite the strong recovery in exports after 2009. The euro zone crisis—which lowered exports and darkened the outlook more—led to further employment losses, this time also to some extent in wholesale and retail trade as domestic demand continued to falter. Throughout the post crisis period,

4 An apparent underreporting of wages, and thus overreporting of profits, in the national accounts complicates further analysis for Bulgaria (see Bakker and Zeng, “Dismal Employment Growth in EU Countries: The Role of Corporate Balance Sheet Repair and Dual Labor Markets,” IMF, WP/13/179).
public employment has fallen steadily, as public finances were consolidated, from above 11 percent of the total population in the late 1990s to less than 8 percent in 2011.

7. **Recent weak GDP growth and poor labor market outcomes mostly reflect structural factors.** Potential growth has fallen off sharply, similar to other countries in the region (chart). With the output gap at 2½ percent of potential GDP in 2013, closing it in the period to 2018 will add only about a ½ percentage point to GDP growth per year, leaving potential growth as the main determinant of actual growth in the years ahead.

8. **With the output gap relatively small, the bulk of unemployment is also structural, as in many other countries in the region** (chart). The little cyclical growth that will close the output gap will be insufficient to significantly bring down unemployment from current rates.

9. **A growth accounting exercise shows that potential growth fell after 2008 because of lower contributions from factor inputs, while total factor productivity growth was little changed and remained tepid.** Potential growth slowed sharply since 2008 as labor was shed and the growth rate of the capital stock declined on the back of reduced FDI and lower demand (charts). Total factor productivity (TFP) played little role in the slowdown of potential growth since 2008. TFP had grown rapidly following the major reforms related to stabilization in 1997 and the run up to EU accession in 2007 that helped move Bulgaria towards a market-based economy, but by 2007–08 its growth had slipped and was already similar to what it was in the post-crisis years.

10. **Nominal wage growth fell sharply in the post-crisis period but wages continued to rise in real terms** (charts). The continued rise is due to private sector developments as wages in the public sector were constrained by a freeze in the wage bill to help reduce the budget deficits that emerged after the global financial crisis. Real wage developments have varied considerably across the country, with the strongest wage growth in and around the capital, Sofia. Despite continued wage growth, real unit labor costs have been relatively stable as labor productivity also rose. This in part reflects corporate restructuring following the crisis—which has disproportionately affected low-skilled workers. Thus, part of the high real wage growth is the result of compositional changes in...
employment. With the further moderation of wage growth since late 2012, the transformation of the labor market away from low paid work appears to have slowed, just as overall employment began to increase.

11. **Unemployment rates vary by age, region, and gender.** The unemployment rate has increased more in recent years for the young with gains of the previous 10 years being reversed. (Moreover, the youth rate of employment was half of the EU average in 2012, and the labor force participation rate for the young, at 27 percent, was below the EU average of 40 percent.) The unemployment rate in the southwest (Sofia) is about 8 percentage points lower than in the northeast—and this appears to have been reflected in faster real wage growth in the southwest. The male unemployment rate has risen more than the female rate (chart), and the participation rate has fallen more for males (though it is still higher than for
females), likely related to the sharp employment losses in traditionally male-oriented sectors such as construction and manufacturing. The Roma population presents additional labor market integration difficulties because of limited education and formal employment history.5

12. **Better education, training, and active labor market policies could help reduce unemployment by lowering skills mismatches.** Recent cross-country analysis points to the need for education outcomes to be improved over time.6 Regarding active labor market policies, spending fell sharply after the crisis but has begun to recover as funding from the European Social Fund has been increasingly utilized (chart)—in a context where a rising share of unemployment is long-term and discouraged workers depress labor force participation rates.7 While a full exploration of unemployment causes is beyond the scope of this paper, the regional and age disparities in unemployment rates suggest that differentiation in labor market parameters such as minimum wages and minimum social security thresholds may also be needed.8 The use of some of the EU funds results in construction activity that also creates needed employment.

13. **More broadly, reviving growth and employment will require continued progress in tackling deep rooted structural rigidities.** Hard-won macroeconomic stability and the strong progress achieved in the run-up to EU accession set a strong foundation for recovery. This must be complemented with further reform if Bulgaria is to meet its objectives for convergence with EU partners and strengthen public confidence in the reform process (chart), recognizing the complex nature of remaining structural challenges and the inherent difficulty of building

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6 Bulgaria’s score in the five-yearly Progress in International Reading Literacy Study (PIRLS) declined in 2011 and 2006, and in the Program for International Student Assessment (PISA) 40 percent of students were classified as functionally illiterate.

7 Active labor market policies include a range of programs that provide training and subsidized employment for unemployed and discouraged workers.

needed consensus for the next generation of reforms.9

14. **Competitiveness studies point to areas of relative strength for Bulgaria in its efforts to revive growth and job creation.** On indicators such as fiscal and country risk indicators, Bulgaria is comparable to the best performers in emerging Europe. Thanks to its robust policy framework, Bulgaria has successfully withstood the challenges posed by the international economic shock in 2008, the turmoil in neighboring Greece, and the more recent domestic political and social discord. The income tax system, with its low, flat rates—as well as the ease of starting a new business and access to finance—are also seen as favorable in competitiveness rankings.

15. **However, in other policy areas Bulgaria lags behind.** Empirical studies suggest that labor productivity can be boosted by better infrastructure, greater innovation and sophistication, improved higher education, more goods market efficiency, and better institutions.10 Competitiveness studies also point to infrastructure constraints, ageing and brain drain as key challenges.11 Given the importance of foreign markets for Bulgaria as a small, open economy, improvements in ease of trading (which can occur in part through better transportation infrastructure), and eliminating red tape (e.g., construction permitting) are

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9 Recent studies also emphasize that solutions will not be found in short-term fixes (see Anastasakis et al., “Defining a New reform Agenda—Paths to Sustainable Convergence in South East Europe,” SEESOX, 2013) and will need to be tailored to domestic circumstances (see Rodrik, “One Economics, Many Recipes: Globalization, Institutions, and Economic Growth,” 2007).


also key. Among the most critical challenges highlighted in these studies are issues related to the judicial system, where crime, corruption, and enforcing contracts are seen as key constraints.

16. **Governance reforms are critical to a better overall functioning of the economy.** While Bulgaria’s score on governance-related measures is comparable to some regional partners, it falls short of the best performers in the region. Attracting investment and raising growth in the post-crisis environment will require raising the attractiveness of Bulgaria as a business destination. A critical area in this regard is the judicial system, where better contract enforcement and a reduction of corrupt practices would help raise the expected rate of return on investment.

17. **Improving the judicial system and combating crime are crucial but difficult.** The Council of Europe maintains a dialogue with Bulgaria focused on improving the judiciary and the fight against corruption and organized crime. While it is recognized that progress has been made, the Council calls for further increases in the judiciary’s independence, measures to reduce bribery, and establishing independent institutions in the area of anti-corruption. Similarly, the European Union has a “Cooperation and Verification Mechanism” in place with Bulgaria to monitor and support progress in judicial reform and the fight against corruption and organized crime. The EU has acknowledged improvements of the legislation governing the Supreme Judicial Council, the introduction of asset forfeiture legislation, and the creation of special police and prosecution bodies to fight organized crime. It judges, however, that judicial reform is not firmly entrenched, with the judiciary still influenced by the executive and organized crime high, and that external pressure remains necessary to maintain reform momentum.

<table>
<thead>
<tr>
<th>Corruption Perception in CESEE (Rank in world, 2012)</th>
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<tbody>
<tr>
<td>Country</td>
</tr>
<tr>
<td>Estonia</td>
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<tr>
<td>Slovenia</td>
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<tr>
<td>Poland</td>
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<tr>
<td>Hungary</td>
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<tr>
<td>Lithuania</td>
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<td>Czech Republic</td>
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<tr>
<td>Latvia</td>
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<td>Turkey</td>
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<td>Slovakia</td>
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<td>Croatia</td>
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<tr>
<td>Romania</td>
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<tr>
<td>FYR Macedonia</td>
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<tr>
<td>Bosnia and Herzegovina</td>
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<tr>
<td><strong>Bulgaria</strong></td>
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<tr>
<td>Montenegro</td>
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<tr>
<td>Serbia</td>
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<tr>
<td>Moldova</td>
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<td>Kosovo</td>
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<td>Albania</td>
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<tr>
<td>Belarus</td>
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<tr>
<td>Russia</td>
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<tr>
<td>Ukraine</td>
</tr>
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Source: Transparency International.

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12 In August 2013 the government adopted measures to cut red tape, reduce fees, and speed up inclusion of new entities in the Trade Register.


FISCAL POLICY AND SOCIAL PROTECTION¹

Recent studies suggest that social protection spending helped mitigate the income effects of the crisis in Bulgaria, but point to relatively poor results in terms of poverty reduction and inefficiencies (including on health-related spending) that imply substantial fiscal risks over time. In light of this, this paper draws some lessons based on cross-country experiences and outlines a number of reform options for the social protection system in Bulgaria.

A. Introduction

1. While measures to support growth and employment provide the best protection against poverty, the high incidence of poverty in Bulgaria also highlights the importance of an effective and efficient social assistance system. Almost half of Bulgaria’s population risks falling into poverty or social exclusion (Figure 1).² There are also temporary needs associated with the effects of the recent crisis, which led to an increase in unemployment.³

2. Meeting Bulgaria’s substantial social protection needs in a sustainable manner will be increasingly challenging. Bulgaria’s strong fiscal position—with one of the lowest deficit and debt ratios in the European Union—puts it on a strong footing. However,

¹ Prepared by Anke Weber. I would like to acknowledge the helpful comments provided by the Bulgarian National Bank and Ministry of Finance, as well as the European Commission, World Bank, and Fund colleagues.

² Denotes proportion of population falling under at least one of the following three criteria: at risk of poverty, severely materially deprived, living in households with very low work intensity. Persons at-risk-of-poverty are those living in a household with disposable income below the risk-of-poverty threshold, or 60 percent of median national disposable income (after social transfers). Severely materially deprived persons have living conditions constrained by a lack of resources (for example, not being able to keep home adequately warm, eat fish or a protein equivalent every second day, or pay rent/mortgage on time). People living in households with very low work intensity are those aged 0–59 where on average the adults (aged 18–59) worked less than 20 percent of their total work potential during the past year. Students are excluded (see EC, 2012).

³ Recent evidence also points to rising inequality in Bulgaria. According to Bastagli and others (2012), Bulgaria’s income inequality has increased significantly between 2005 and 2010, with the Gini coefficient rising from 30 to 38. According to this measure, Bulgaria is one of the most inequitable countries in emerging Europe. Bastagli and others (2012) also provide a recent overview of how fiscal policy and social protection in particular can address inequality.
demographic pressures—including from emigration and an aging population—will contribute to significant increases in spending pressures, including related to health and pensions, in the medium-term. These factors highlight the importance of a focus on efficiency and targeting in social spending to address increasing social protection needs over time in a sustainable manner and prevent crowding out of critical expenditures in what will remain constrained fiscal space.

3. **The new government’s reform plan seeks to increase attention to social issues.** Limited increases in social spending were approved recently, which focused on energy assistance and family allowances. Adequate social protection of the most vulnerable groups is also set as one of the priorities in the 2014 budget. Moreover, the “2020 National Strategy for Combating Poverty and Social Exclusion,” which was adopted in February 2013, envisages a reduction in the number of people at risk of poverty or social exclusion by 260,000 by 2020 (about 3.6 percent of the current population). Country specific recommendations by the European Commission have also highlighted the need to improve the accessibility and effectiveness of social transfers and services, in particular for children and older people. The authorities are currently looking at legislative measures and various programs to help achieve these objectives.

4. **This paper considers the efficiency and targeting of the social protection system and suggests options for reform.** Section B will provide an overview of the current social protection system in Bulgaria. Section C will analyze how the social benefit system responded to the crisis and what we can learn from the crisis response in Bulgaria compared to other countries in the region. It will also discuss which design and implementation features affected the crisis response. Section D will discuss the efficiency of social protection spending in serving the needs of vulnerable groups and provide suggestions on how to step up efficiency and improve outcomes. Section E will provide reform options and conclude.

B. **Overview of Current System**

5. **Bulgaria has a variety of contributory and non-contributory social benefits.** Social insurance (contributory) programs include old age, disability and survivor pensions and health care benefits. Non-contributory or social assistance programs include monthly family allowances (child benefits, maternity leave), heating allowances, social pensions for

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4 The authorities also emphasized the importance of ensuring strong compliance related to social security and health contributions to safeguard the financial soundness of the system.

5 The latest available disaggregated data on social protection are from 2010. Therefore any reform measures that have taken place since cannot be assessed in this paper.

6 Social benefits consist of transfers, in cash or in kind, by social protection schemes to households and individuals to relieve them of the burden of a defined set of risks or needs. A contributory benefit is one for which a cash transfer is only received if one has worked in the formal sector and has paid social security contributions. Non-contributory assistance programs on the other hand are based on (i) a household being in need; (ii) a family having a child; or (iii) an individual being disabled.
the elderly, disability benefits, the last resort social assistance program and numerous other small benefits. Social insurance programs account for the largest share of total expenditure on social protection, while social assistance programs\(^7\) constitute a very small part. In terms of social assistance programs, by far the largest proportion is spent on family allowances (Figure 2). There are also active and passive labor market policies, including training, employment incentives and unemployment and early retirement benefits. Passive labor market policies (including unemployment benefits) contribute to about two-thirds of total spending on labor market policies.

6. While Bulgaria spends similar amounts as other countries in Eastern Europe on social protection, relatively little of it goes to social assistance. Total social protection spending in Bulgaria (excluding health) is close to a sample average of the 15 emerging European economies, which were surveyed as part of a recent World Bank study (Figure 3).\(^8\) However, Bulgaria ranks at the lower end of the sample in terms of its social assistance spending, which is almost 1 percent of GDP below the sample average (Figure 4).\(^9\) One explanation for this could be that, based on Eurostat and national data, 96 percent of

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\(^7\) The last resort social assistance program refers to the monthly monetary benefit for low income households. The benefits are means tested and financed by the state budget (Isik-Dikmelik, 2012).

\(^8\) Isik-Dikmelik (2012). The study looks at social protection spending and its components but excludes health. In most countries, the aggregate data are derived from administrative data on expenditures on specific programs provided by line ministries. Where necessary, the data are supplemented by other sources including budget accounts, national statistical office data and reports, and so on. Administrative costs are collected, where possible, but are not included in the totals. Currently, the dataset does not include social care/services for most countries.

\(^9\) The size of transfers is small. According to the Open Society Monitoring Survey, the child allowance and last resort social assistance transfer between $9–18 per capita per month to beneficiary families. The largest per capita transfers are old-age pensions (about $100 per capita per month), followed by heating allowances; maternity benefits, disability pensions and unemployment benefits; all of which transfer between $40–45 per month (World Bank, 2012).
the Bulgarian population are home owners, whereas in other countries in the sample significant amounts of social assistance spending are directed at shelter.

7. **Bulgaria also spends less than many regional comparators on means tested programs.** Data from the European Commission shows that Bulgaria spends above average amounts on pension spending supporting the conclusions based on the World Bank dataset, but slightly less than average amounts on means-tested programs (Figure 5). It is also interesting to note that while pension spending as a percent of GDP is about 1/3 higher on average in the EU-27 than in Bulgaria (or regional comparators in Eastern Europe), spending on means-tested programs is more than 3 times as high.

8. **Limited increases in social spending were approved recently.** Two packages that supported a budget neutral increase in targeted social protection were passed in 2013. The first, which was passed by the caretaker government in April, increased assistance to households that were most affected by the crisis by BGN 41 million (0.05 percent of GDP) and focused an employment and energy assistance measures. The new government approved a second aid package of BGN 27 million (0.03 percent of GDP) in June 2013, focusing on child and heating allowances (Table 1).

<table>
<thead>
<tr>
<th>Table 1. 2013 Reform Packages on Social Assistance</th>
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<tbody>
<tr>
<td><strong>First Package (April 2013)</strong></td>
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<td>-------------------------------</td>
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<tr>
<td><strong>Total: BGN 41 million (0.05 percent of GDP)</strong></td>
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<tr>
<td>• BGN 3.7 million for households with low income to meet their energy needs</td>
</tr>
<tr>
<td>• BGN 1.4 million for households with disabled children</td>
</tr>
<tr>
<td>• BGN 2 million for households with low income and children up to two years</td>
</tr>
<tr>
<td>• BGN 3.4mn for opening of soup-kitchens for poor</td>
</tr>
<tr>
<td>• BGN 3.7 million for households with low income to meet their energy needs</td>
</tr>
</tbody>
</table>

Source: Country authorities.
C. Crisis Preparedness/Response

9. Despite significant fiscal consolidation needed to contain the budget deficit in 2009, total social protection spending increased. This was the result of increases in spending on pensions and unemployment benefits, while expenditure on last resort social assistance programs remained relatively constant in real terms (Figure 6). The government expanded the generosity of the existing social protection system by increasing a number of social minimums by 10 to 40 percent in 2009. These included monthly allowances for taking care of a child (40 percent), minimum and maximum amount of unemployment benefit (20 percent), minimum contributory and non contributory pensions (20 percent) (World Bank, 2012).

10. Unemployment benefits acted as an automatic stabilizer. As expected, spending on passive labor market polices (mainly unemployment benefits) increased as a first line of defense in response to the crisis (Figure 7). Active labor market policies (ALMP) on the other hand declined during the crisis.11

11. The social policy response may have contributed to preventing a severe fall in average household income levels, but it was relatively costly. Survey data indicate that at the beginning of 2011 average household income was no different than in 2008. Moreover, about 87 percent of households kept their relative position in the overall income distribution. However, only a very small share went to means tested programs (such as the last resort social assistance), which is the most cost efficient form of social assistance to combat poverty. Instead, increases in social protection came mainly through relatively costly (and less targeted) increases in social and minimum pensions and child allowances (World Bank, 2012). Causation is, however, difficult to establish. The relatively stable income levels

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10 These changes were already agreed in late 2008.

11 The government’s current reform plan for 2014 acknowledges the importance of policies directed towards the integration of vulnerable groups in the labor market, and will look into ways to improve the efficiency of ALMP, including better targeting of implemented measures, programs and initiatives at national and regional level.

12 Part of the increase in pension spending may also reflect that the crisis may have induced some employees to choose early retirement options.
during the crisis may have also been affected by other factors, such as the unusually high growth in average wages, which was stronger than in other CEE countries (Maiväli and Stierle, 2013).

12. **Design features may explain why means tested social assistance programs were underutilized.** While the targeting system in Bulgaria is well developed, the coverage of the last resort social assistance program has been shrinking over time due to the low eligibility threshold—currently about BGN 65/ $45 per month, which has not been adjusted since 2009, as well as stringent time limits for such assistance, though the latter was recently abolished\(^\text{13}\) (Isik-Dikmelik, 2012). The low non-indexed eligibility thresholds may explain why well targeted programs were used to a limited extent in the crisis response. Increasing the coverage of these means tested benefits would have taken time, administrative capacity and political will to protect the most vulnerable, all of which are less likely to be present in a crisis.

13. **Cross-country experiences support this conclusion.** For example in Serbia, where the GDP decline in 2008/2009 was comparable to Bulgaria (5 percent versus 4 percent respectively) the response of means-tested last resort social assistance appears to have been much more flexible than in Bulgaria due to built-in design features (Isik-Dikmelik, 2012). The last resort social assistance in Serbia had been expanding over time since the income eligibility threshold is linked to the consumer price index by law. This indexation prevented the program from becoming marginalized, while keeping the purchasing power of the benefit stable over time. Figure 8 shows that while the last resort social assistance spending remained approximately stable during the crisis in Bulgaria, it expanded significantly in Serbia.

**D. Maintaining an Adequate and Efficient Social Protection System**

14. **A well designed social protection system can promote income equality and reduce poverty.** However, where the efficiency of social spending is low, increasing social protection spending will not necessarily lead to better outcomes. This section will therefore assess the efficiency of different programs in Bulgaria in serving the needs of vulnerable groups and provide suggestions on how to step up efficiency and improve outcomes. The analysis will look at the coverage, composition and efficiency. In this context, it will consider whether efficiency gains can be made in the healthcare sector to ensure that public health

\(^{13}\) The 18 month rule was abolished in 2011.
expenditure growth can be contained and the extent to which budget transfers to the pension system may squeeze out room for other social transfers and other spending in the medium to long-term.

Social Transfers and Poverty Reduction

15. Recent data on the role of social transfers in reducing poverty in Bulgaria point to possible inefficiencies. The reduction in at-risk-of-poverty rates following transfers was the second smallest in the EU 27 after Greece for the period 2006 to 2011. At the same time, some countries seem to achieve a higher reduction in poverty without spending significantly more on social transfers (Figure 9a). Staff analysis—based on comparisons with other countries in the region—also suggests that Bulgaria could improve the efficiency of its social transfers in reducing poverty, with potential efficiency gains of up to 40 percent (Figure 9b).14

Figure 9a. Efficiency of Social Transfers in Reducing At-Risk-of-Poverty

a. Input versus Output

Sources: European Commission and IMF staff estimates.
1/ The output measure depicts the difference between the risk of poverty pre and post social transfers (Percent of Population), average 2006-2011 based on data from the EC. The DEA is input oriented.
2/ Real per capita spending on social transfers (excluding pensions, PPP), average 2005-2010.

The efficiency frontier analysis investigates possible efficiency gains relative to the best performers in the sample. A simple regression on the other hand assesses Bulgaria’s performance relative to the sample average. There are a number of caveats to the efficiency frontier analysis (Grigoli and Kapsoli, 2013). For example, the results are very sensitive to outliers, which define the frontier. Moreover, if a country receives a score of 1 this does not necessarily imply that it is a perfect social protection system in terms of poverty reduction objectives but that it produces a certain output with the minimum amount of inputs. Data Envelopment Analysis (DEA) estimates the maximum possible output given a set of inputs using linear programming methods and thereby answers the question of whether the same quantity and quality of government services can be provided for less (Grigoli, 2012). It assigns to the best performers a value of 1 and “envelopes” the less efficient ones, the distance being a measure of potential savings. The input used in the analysis is real spending on social transfers (excluding pensions) per capita (in PPP terms) and the output is the reduction in the at-risk-of poverty rate through transfers as a percent of the total population.
Targeting and Coverage of Social Assistance

16. Means tested benefits in Bulgaria are relatively well targeted but their coverage is low. According to World Bank data, the last resort social assistance covered less than 5 percent and heating allowances less than 15 percent of the poorest quintile in 2011 (Table 2). Both benefits are found to be well targeted. However, as explained above, expenditure on these items constitutes a very small part of social assistance spending. This raises the question of whether the coverage of the well targeted programs could be increased in a budget neutral way by reducing spending on less well targeted benefits. Additional fiscal space could be generated through streamlining and tightening eligibility criteria for other cash benefits. For instance, the program with the largest coverage is the child benefits, for which targeting accuracy is low.

17. In order to increase the coverage of the last resort social assistance and to avoid the erosion of the real value of benefits over time, some indexation rules could be considered. Most countries in the EU use some form of indexation. Except Bulgaria, only three other EU member states have no such rules (Estonia, Ireland and Latvia) (World Bank, 2013a). The rest of the countries are legally bound to apply indexation rules to eligibility.

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15 The last resort social assistance program is also inclusive of minorities, with Roma households receiving 79 percent of total benefits (World Bank, 2009).
thresholds and benefit bases, which vary in terms of their methodology. Indexation can be based on one or a combination of indicators like national poverty lines (estimated with household budget survey data), growth of wages or pensions, or the consumer price index. Typically, the adjustment is made on an annual basis. Exceptions include the Netherlands, where the base and threshold are adjusted twice per year and Belgium, where they are adjusted automatically whenever CPI varies by 2 percent (World Bank, 2013a).

Table 2. Coverage and Targeting of Social Assistance Programs in 2011 (in percent)

<table>
<thead>
<tr>
<th>Program</th>
<th>Coverage 1/</th>
<th>Coverage Poorest Quintile 2/</th>
<th>Targeting Accuracy 3/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability benefit</td>
<td>2.1</td>
<td>2.9</td>
<td>31.5</td>
</tr>
<tr>
<td>Scholarships</td>
<td>1.9</td>
<td>1.7</td>
<td>47.2</td>
</tr>
<tr>
<td>Maternity leave</td>
<td>4.1</td>
<td>8.7</td>
<td>27.1</td>
</tr>
<tr>
<td>Child benefits</td>
<td>31.6</td>
<td>48.9</td>
<td>32.7</td>
</tr>
<tr>
<td>Last resort social</td>
<td>1.6</td>
<td>4.9</td>
<td>53.1</td>
</tr>
<tr>
<td>Heating allowances</td>
<td>3.8</td>
<td>13.3</td>
<td>68.5</td>
</tr>
</tbody>
</table>

1/ Portion of population receiving the transfer.
2/ Portion of population in poorest quintile receiving the benefit.
3/ Share of benefit accruing to poorest quintile.

18. **At the same time it will be important to maintain effective work incentives to avoid welfare dependency.** This requires that the level and design of social benefits provide the appropriate balance between protecting vulnerable households and maintaining incentives to work or return to work as soon as possible. This can be achieved through appropriate benefit generosity as well as through well designed active labor market programs.16

**Health**

19. **In the past few years, the share of health in total public expenditures has increased, but spending on health is still comparable to other emerging European Union countries.** Health expenditures increased by 14 percent in real terms between 2009 and 2011 and as a percentage of total current spending health expenditures rose from 10 percent in 2009 to 12 percent in 2011 (World Bank, 2013b). In 2011, Bulgaria spent about 4 percent of GDP on health and sickness which is comparable to amounts spent in Latvia, Lithuania, Poland and Romania and significantly below the EU-27 average of about 8 percent of GDP (based on EC data). However, IMF (2013) projects that between 2011 and 2050 public health spending is projected to increase by 3.2 percent of GDP. Excess cost growth (which is defined as the excess of growth in real per capita health expenditures over the growth in real per capita GDP after controlling for the effect of demographic change) is the main driver of excess cost growth.

16 This will be particularly challenging for Roma households, which tend to have more limited education and formal employment histories (World Bank, 2009).
this increase. The cumulative fiscal burden of this increase is sizeable. The net present value of the projected increases in public health spending during 2011-2050 is 44.6 percent of today’s GDP, applying a discount rate of 1 percent a year in excess of GDP growth (Soto and others, 2012).

20. **Efficiency analysis suggests that better performance of the health system could be achieved without increasing expenditure.** The World Bank (2013b) concludes that Bulgaria’s health system’s performance is lagging compared to other EU countries and lists a number of limitations of the current system (Box 1). Grigoli and Kapsoli (2013) also estimate that life expectancy could be increased significantly by raising the efficiency (measured in terms of outputs relative to inputs) of health spending. Using a novel approach, the authors use a stochastic frontier model that controls for the socioeconomic determinants of health such as educational attainment, lifestyle behaviors (e.g., alcohol consumption), environment factors (such as access to sanitation facilities and clean water) and contagious disease indicators. The efficiency scores imply that Bulgaria could increase life expectancy by 4 years.

21. **There are a number of reform options to ensure that health sector inefficiencies do not lead to large increases in public health expenditure and squeeze out room for other social spending.** These include a number of cost saving measures, which would create the necessary space to strengthen financial protection to all so that no-one falls into poverty due to health care costs:

- Implementation of technically driven hospital rationalization plan
- Strengthen alternatives to hospital based care
- Improve planning for human resources, adapting training and addressing financial and other constraints to retain qualified staff in Bulgaria.

**Pensions**

22. **The pension system will have to adjust to adverse demographic developments.**

**Dependency rates are expected to increase significantly over the coming decades.** According to the World Bank (2013b), the old-age dependency rate, which is defined as the number of elderly (above the age of 65) per 100 working-age persons, is estimated to double from 25 percent in 2011 to 51 percent in 2075. Moreover, the system dependency rate, defined as the number of beneficiaries relative to the number of contributors, will increase from 75 elderly or disabled persons per 100 contributors to 109 beneficiaries per 100 contributors by 2050. Despite these adverse developments, the government reduced contribution rates in 2006 (World Bank, 2013b). Moreover, the pension system has pledged gross replacement rates of roughly 47 percent of average wages, which are similar to replacement ratios in countries experiencing more favorable demographics and with significantly higher pension contribution rates (World Bank, 2013b).
Box 1. Health Sector Performance in Bulgaria

The recent performance review by the World Bank (2013b) of health-care systems suggest that many countries perform better than Bulgaria without spending much more. In particular, the report highlights the following:

- Life expectancy is lagging behind other EU-27 countries (73 years in Bulgaria compared to 80 in the EU-27).

- The financial protection of health care system is limited due to high out of pocket payments, which are predominantly incurred on pharmaceuticals (representing 44 percent of total expenditure, among the highest in the region).

- There is widespread perception of corruption in the health care sector according to survey results. A 2009 survey by the European Commission found that 65 percent of Bulgarians believed corruption was widespread in the public health care sector.

- There is poor coverage of preventive services. In Bulgaria, the use of preventative services is much lower than in other EU countries, with the exception of Romania.

- The number of hospital episodes per capita is high. The World Bank (2013b) estimates that around 20 percent of hospital stays have been for conditions that could be treated by an outpatient basis. The root causes of this are likely to include the limited availability of outpatient alternatives as well as payment systems and regulations, which may not encourage or even allow outpatient alternatives.

- The profession’s specialty mix is not adapted to population needs. The number of nurses per capita is by far the lowest in the region.

- Among 10 Eastern European countries, Bulgaria has the highest number of hospital beds per capita and the number continues to grow.

- The hospital system is highly fragmented leading to duplication of resources across facilities impeding the exploitation of economies of scale.

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1These include Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia.

23. Recent changes, which reverse a number of well designed recent pension reforms, worsen pension sustainability. From July 2014, automatic indexation will be implemented based on the “golden Swiss rule” that links pension increases to the average growth of insurable income and CPI inflation. This is an important change to previous plans, which implied an indexation to CPI only. In addition, the gradual increase in the retirement age, part of the 2011 pension reform and started in 2012 (to reach 65 years for men by 2017 and 63 years for women by 2020), has been halted. Thus, the pension deficit by 2040 is now
After 2011/2012 pension reforms retirement age freeze for one year + Swiss indexation

1/ Includes average pension increase of 9.3 percent as of April 1, 2013.

Source: NSSI Bulgaria.

Balance of the State Social Insurance Budget 1/
(Percent of GDP)

1/ includes average pension increase of 9.3 percent as of April 1, 2013

Source: NSSI Bulgaria

Projected to be near 6 percent of GDP instead of 4 percent of GDP. The deficit is financed by the budget and crowds out other spending, which is increasingly coming under pressure as the population ages. Compensatory measures are needed to limit budgetary pressures. Further reform options in the pension system (besides returning to the 2011/2011 reform decisions) include limiting early retirement, and increasing the retirement age of women to that of men, which would help boost labor force participation and counter the drag from aging on growth.

E. Conclusions

24. While recent studies suggest that social protection spending helped to mitigate the income effects of the crisis in Bulgaria, they also point to relatively poor results in terms of poverty reduction objectives and inefficiencies (including in health-related spending) that imply substantial fiscal risks over time. In light of this, this paper draws some lessons from the recent crisis and outlines a number of reform options for the social protection system in Bulgaria:

- **Social assistance.** The crisis experience suggests that design features matter and that well-targeted social assistance programs were underutilized in Bulgaria. This raises the question of how the system could be changed in order to ensure that in future crises, resources can be directed through a more cost effective mix. Formal indexation of eligibility thresholds and benefits could be considered in order to increase the coverage of the last resort social assistance and to avoid the erosion of the real value of benefits over time. Such rules are in place in almost all EU countries and can take different approaches both in terms of the indicator to which thresholds and bases are linked as well as in terms of the frequency with which they are updated. One important caveat is that combining adequate safety-nets with strong work incentives requires a carefully balanced system.

- **Health sector.** High out of pocket payments increase poverty risk while inefficiencies squeeze out room for other spending. A number of cost saving measures are available, which would raise efficiency in the medium to long-term and create the necessary space to strengthen financial protection to all so that no-one falls into poverty due to health care costs. These include hospital rationalization, the strengthening of alternatives to hospital based care and improved planning for human resources.

- **Pensions.** The reversal of some of the 2010 and 2011 reforms will have adverse budgetary implications over the longer term. Compensatory measures are needed to ensure the sustainability of the system and avoid squeezing out room for other expenditures.
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